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AIRBORNE METEOROLOGICAL/ATMOSPHERIC RESEARCH EQUIPMENT REPAIRMA--ETC(U)
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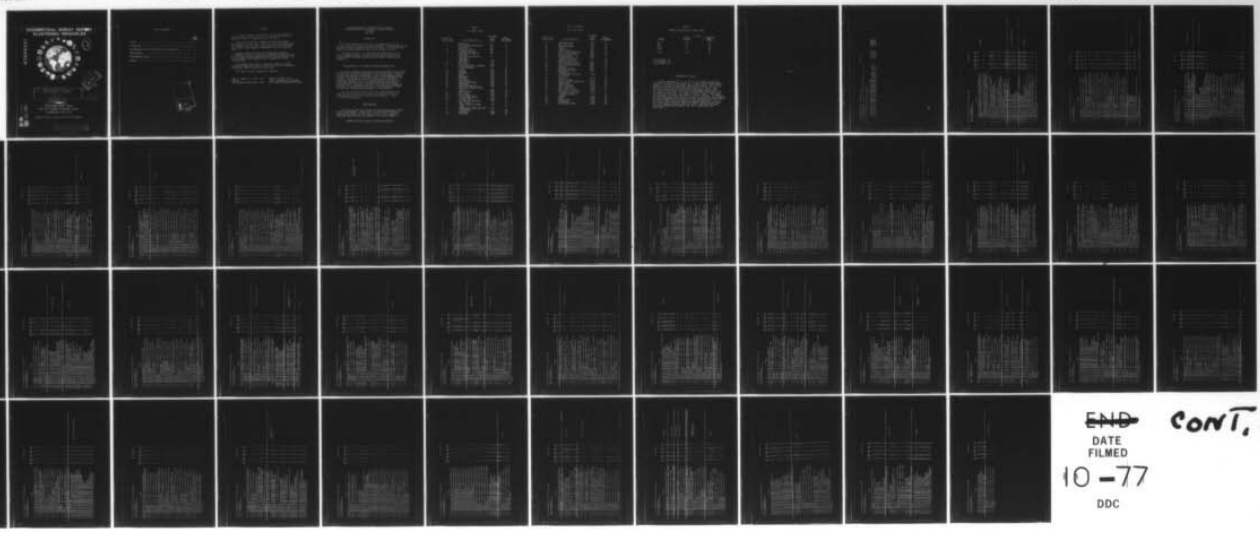

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OCCUPATIONAL SURVEY REPORT,
ELECTRONIC PRINCIPLES

AIRBORNE METEOROLOGICAL/ATMOSPHERIC
RESEARCH EQUIPMENT REPAIRMAN,

AFSC 30251,

AFPT 90-302-222

15 Sept[illegible] 1977

OCCUPATIONAL SURVEY BRANCH
USAF OCCUPATIONAL MEASUREMENT CENTER
LACKLAND AFB TEXAS 78236

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PREFACE

This report presents a summary of the results of a detailed Air Force Electronic Principles Survey of the Airborne Meteorological/ Atmospheric Research Equipment Repairman, AFSC 30251.

The Electronic Principles Inventory (EPI) was developed by Major Thomas J. O'Connor and Mr. Hendrick W. Ruck and the survey data were analyzed by Mr. Guy Cole. All are members of the Occupational Survey Branch, USAF Occupational Measurement Center, Lackland AFB, Texas.

Computer programs for analyzing the data were designed by Dr. Raymond E. Christal, Occupational and Manpower Research Division, Air Force Human Resources Laboratory (AFHRL), and were written by the Project Analysis and Programming Branch, Computational Sciences Division, AFHRL.

Distribution of this report is made upon request to the USAF Occupational Measurement Center, attention of the Chief, Occupational Survey Branch (OMY), Lackland AFB, Texas 78236.

This report has been reviewed and is approved.

JAMES A. TURNER, JR., Colonel, USAF
Commander
USAF Occupational Measurement Center

WALTER E. DRISKILL, Ph.D.
Chief, Occupational Survey Branch
USAF Occupational Measurement Center

ELECTRONIC PRINCIPLES OCCUPATIONAL SURVEY REPORT
AIRBORNE METEOROLOGICAL/ATMOSPHERIC RESEARCH EQUIPMENT
REPAIRMAN
AFSC 30251

INTRODUCTION

This report summarizes the results of the administration of the Electronic Principles Inventory to airmen assigned as Airborne Meteorological/ Atmospheric Research Equipment Repairman (AFSC 30251). The data for this report were collected during the period April through June 1977.

This report describes: (1) development and administration of the survey instrument; and (2) electronic principles used by DAFSC 5-skill level personnel both CONUS and overseas and assigned to selected major commands.

DEVELOPMENT OF THE ELECTRONIC PRINCIPLES INVENTORY (EPI)

The EPI was developed by personnel from the Occupational Survey Branch who were well qualified in theoretical physics and electronics, as well as in task analysis and survey development. Over 300 maintenance personnel from SAC, TAC, ADC, MAC, and AFCS participated in the development of the inventory. Representing the five ATC training centers, electronics experts who averaged 12 years of maintenance experience and four years of electronic principles instruction experience spent several weeks refining the EPI. In addition, personnel at the Electrical Engineering Department of the USAF Academy and the Air Force Human Resources Laboratory were consulted during the development of the inventory.

The final version of the EPI used in this survey contained 1,257 items in 62 subject matter areas covering all electronic principles training given at the five ATC technical training centers. Table 1 lists the 62 subject areas.

ADMINISTRATION

The Electronic Principles Inventory was administered by mail to AFSC 30251 airmen worldwide. Responses from 10 individuals represented 40 percent of the total of all AFSC 30251 personnel. Table 2 shows the percentage distribution by major command of the survey incumbents.

TABLE 1

EPI SUBJECT AREAS

SEQUENCE OF SUBJECT AREAS	SUBJECT AREA TITLE	BEGINNING ITEM NUMBER	GPSUM PAGE NUMBER
1	MATHEMATICS	A1	2
2	DIRECT CURRENT AND VOLTAGE	A15	2
3	RESISTANCE	A24	2
4	MULTIMETER USES	B52	3
5	ALTERNATING CURRENT	B61	4
6	INDUCTORS AND INDUCTIVE REACTANCE	B67	4
7	CAPACITORS AND CAPACITIVE REACTANCE	C92	5
8	TRANSFORMERS	C128	6
9	MAGNETISM	C171	7
10	RCL CIRCUITS	D185	8
11	SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)	D229	10
12	FILTERS	D239	10
13	COUPLING	E261	11
14	SOLDERING	E273	11
15	RELAYS	E295	12
16	MICROPHONES	F314	12
17	SPEAKERS	F327	13
18	OSCILLOSCOPES	F342	13
19	SEMICONDUCTOR DIODES	G354	13
20	TRANSISTORS	G404	15
21	TRANSISTOR AMPLIFIERS	G428	16
22	SOLID-STATE SPECIAL PURPOSE DEVICES	H477	19
23	POWER SUPPLIES	H483	19
24	OSCILLATORS	H512	19
25	MULTIVIBRATORS	I539	20
26	LIMITERS AND CLAMPERS	I555	21
27	ELECTRON TUBES	I565	21
28	ELECTRON TUBE AMPLIFIERS AND CIRCUITS	J609	22
29	SPECIAL PURPOSE ELECTRON TUBES	J616	23
30	HETERODYNING, MODULATION, AND DEMODULATION	J632	23
31	AM SYSTEMS	K638	23
32	FM SYSTEMS	K666	24

TABLE 1 (CONTINUED)

EPI SUBJECT AREAS

SEQUENCE OF SUBJECT AREAS	SUBJECT AREA TITLE	BEGINNING ITEM NUMBER	GPSUM PAGE NUMBER
33	NUMBERING SYSTEMS	K685	25
34	LOGIC FUNCTIONS	L695	25
35	BOOLEAN EQUATIONS	L708	26
36	COUNTERS	L733	27
37	TIMING CIRCUITS	M757	27
38	USE OF SIGNAL GENERATORS	M769	28
39	MOTORS AND GENERATORS	M779	28
40	METER MOVEMENTS	N808	29
41	SATURABLE REACTORS AND MAGNETIC AMPLIFIERS	N818	29
42	WAVESHAPING CIRCUITS	N834	30
43	SINGLE SIDEBAND SYSTEMS	0845	30
44	PULSE MODULATION SYSTEMS	0875	31
45	ANTENNAS	0914	32
46	TRANSMISSION LINES	P953	34
47	WAVEGUIDES AND CAVITY RESONATORS	P984	35
48	MICROWAVE AMPLIFIERS AND OSCILLATORS	P1034	37
49	REGISTERS	Q1110	39
50	STORAGE DEVICES	Q1117	40
51	DIGITAL TO ANALOG CONVERTERS	Q1126	40
52	PHANTASTRONS	Q1140	41
53	SCHMITT TRIGGERS	R1141	41
54	CABLE FABRICATION	R1144	41
55	INPUT/OUTPUT DEVICES	S1146	41
56	PHOTO SENSITIVE DEVICES	S1149	41
57	SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)	S1150	41
58	INFRARED	T1159	41
59	LASERS	T1186	42
60	DISPLAY TUBES	T1220	43
61	PROGRAMMING	U1234	43
62	DB AND POWER RATIOS	U1255	44

TABLE 2

COMMAND REPRESENTATION OF SURVEY SAMPLE

	30251	
COMMAND	PERCENT ASSIGNED	PERCENT OF SAMPLE
MAC	60	20
ATC	24	10
AFSC	12	60
OTHER	4	10
TOTAL	100	100

Total Assigned - 25
Total Sampled - 10
Percent Sampled 40%

PRESENTATON OF RESULTS

Personnel responded "yes" or "no" to the 1,257 electronic principles questions as related to their present job. A Group Summary (GPSUM) computer printout is provided in the Appendix portion of this report. Page 1 of the GPSUM lists the five selected groups identified for this report. Pages 2-44 show the percentage of the incumbents responding to the EPI items. The computer program results display the percent members answering "yes" to the subject area questions. The reader can locate a specific subject area by referring to the Appendix page number as listed in Table 1. For example, the Transformers area results are given on page 6 of the GPSUM. The percentage of survey respondents indicating use of specific electronic principles ranged from high in areas such as Resistance (pp. 3-4) and Soldering (p. 12) to low in areas such as Saturable Reactors and Magnetic Amplifiers (pp. 29-30) and Single Sideband Sideband Systems (pp. 30-31). Additional AFSC 302X1 data can be obtained upon request to the Chief, Occupational Survey Branch (OMY).

APPENDIX

PCT MEMS RESPONDING YES, BY SELECTED GRPS

TABULATION OF ELECTRONIC PRINCIPLES UTILIZATION DATA FOR SELECTED GROUPS
IN THE 302X1 CAREER FIELD.

MEMBERS ON THE FOLLOWING GROUPS WERE REQUESTED

GROUP IDENTITY =	SPC026	ALL AIRMEN DAFSC 30251	CONTAINING	10 MEMBERS.
GROUP IDENTITY =	SPC027	ALL AIRMEN DAFSC 30251 STATIONED IN CONUS	CONTAINING	8 MEMBERS.
GROUP IDENTITY =	SPC028	ALL AIRMEN DAFSC 30251 STATIONED OVERSEAS	CONTAINING	2 MEMBERS.
GROUP IDENTITY =	SPC029	ALL AIRMEN DAFSC 30251 ASSIGNED TO ATC	CONTAINING	1 MEMBERS.
GROUP IDENTITY =	SPC031	ALL AIRMEN DAFSC 30251 ASSIGNED TO AFSC -	CONTAINING	6 MEMBERS.

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
A	1	A1-01 IN YOUR PRESENT JOB, DO YOU USE INSTRUMENTS, SUCH AS METERS OR OSCILLOSCOPES, IN WHICH IT IS NECESSARY TO AMPLIFY OR ATTENUATE VOLTAGE, RESISTANCE, ETC., BY POWERS OF 10.	80	75	100	100	67	MATHEMATICS
A	2	A1-02 DO YOU USE PUBLICATIONS, SUCH AS A TECHNICAL ORDERS OR MAINTENANCE MANUALS, IN WHICH IT IS NECESSARY FOR YOU TO MULTIPLY OR DIVIDE BY A POWER OF 10 BEFORE YOU CAN APPLY THE INFORMATION FROM THE PUBLICATION IN A USEFUL WAY ON THE JOB.	70	63	100	0	67	
A	3	A1-03 DO YOU REARRANGE AND SOLVE FORMULAS OR EQUATIONS.	90	88	100	100	83	
A	4	A1-04 DO YOU CALCULATE THE SQUARE ROOT OF A QUANTITY.	40	50	0	100	33	
A	5	A1-05 DO YOU SOLVE FOR UNKNOWN QUANTITIES.	60	63	50	100	50	
A	6	A1-06 DO YOU CONVERT NUMBERS TO LOGARITHMS.	10	13	0	0	17	
A	7	A1-07 DO YOU USE LOGARITHM TABLES IN ANY TYPE OF CALCULATIONS.	10	13	0	0	17	
A	8	A1-08 DO YOU SOLVE QUADRATIC EQUATIONS.	10	13	0	0	17	
A	9	A1-09 DO YOU USE THE NATURAL SYSTEM OF LOGARITHMS.	10	13	0	0	17	
A	10	A1-10 DO YOU PERFORM CALCULATIONS ON VECTOR QUANTITIES.	10	13	0	0	17	
A	11	A1-11 DO YOU WORK WITH TRIGONOMETRIC FUNCTIONS SUCH AS SINE, COSINE, OR TANGENT.	10	13	0	0	0	
A	12	A1-12 DO YOU DETERMINE AREAS OF PLANE FIGURES.	20	25	0	0	17	
A	13	A1-13 DO YOU SOLVE OR USE SIMULTANEOUS EQUATIONS.	20	25	0	0	33	
A	14	A1-14 DO YOU SOLVE OR USE PROPORTIONS.	40	25	100	0	33	
A	15	A2-01 DO YOU USE THE TERM VOLTAGE OR VOLT (V).	100	100	100	100	100	
A	16	A2-02 DO YOU USE THE TERM ELECTROMOTIVE FORCE (EMF).	40	50	0	0	50	
A	17	A2-03 DO YOU USE THE TERM OHM.	100	100	100	100	100	
A	18	A2-04 DO YOU USE THE TERM ION.	20	0	100	0	0	DIRECT CURRENT AND VOLTAGE
A	19	A2-05 DO YOU USE THE TERM DYNE.	0	0	0	0	0	
A	20	A2-06 DO YOU USE THE TERM AMPERE.	100	100	100	100	100	
A	21	A2-07 DO YOU USE THE TERM NEUTRON.	20	0	100	0	0	
A	22	A2-08 DO YOU USE THE TERM COULOMB.	0	0	0	0	0	
A	23	A2-09 DO YOU USE THE TERM PROTON.	20	0	100	0	0	
A	24	A3-01 DO YOU WORK WITH RESISTORS IN YOUR PRESENT JOB.	100	100	100	100	100	
A	25	A3-02 DO YOU INSPECT RESISTORS.	100	100	100	100	100	
A	26	A3-03 DO YOU CLEAN RESISTORS.	90	88	100	100	83	
A	27	A3-04 DO YOU ADJUST RESISTORS.	100	100	100	100	100	
A	28	A3-05 DO YOU CHECK OHMIC VALUE OF RESISTORS.	100	100	100	100	100	RESISTANCE
A	29	A3-06 DO YOU REMOVE OR REPLACE RESISTORS.	100	100	100	100	100	
A	30	A3-07 DO YOU USE OR REFER TO TEMPERATURE COEFFICIENTS FOR RESISTORS ON ANY TASKS YOU PERFORM.	30	38	0	0	33	
A	31	A3-08 DO YOU USE OR REFER TO RESISTOR SYMBOLS SUCH AS FIXED RESISTOR SYMBOLS OR TAPPED RESISTOR SYMBOLS.	100	100	100	100	100	
A	32	A3-09 DO YOU IDENTIFY OR CLASSIFY THE RESISTORS YOU WORK WITH AS CARBON, FIXED WIRE, SLIDE TAP, RHEOSTAT, OR POTENTIOMETER.	100	100	100	100	100	
A	33	A3-10 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE OHMIC VALUE OF RESISTANCE.	100	100	100	100	100	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

			BY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
A	34	A3-11	DO YOU USE RESISTOR COLOR CODES WHICH INDICATE TOLERANCE.	100	100	100	100	100	
A	35	A3-12	DO YOU USE RESISTOR COLOR CODES WHICH INDICATE FAILURE RATE.	90	25	100	0	17	
A	36	A3-13	DO YOU MAKE DECISIONS IN WHICH YOU MUST DETERMINE HOW TWO OR MORE BATTERIES MUST BE CONNECTED TOGETHER TO ACHIEVE A SPECIFIC VOLTAGE.	100	100	100	100	100	
A	37	A3-14	DO YOU USE OR REFER TO THE SCHEMATIC SYMBOLS WHICH REPRESENT BATTERIES, FUSES, CONDUCTORS, LAMPS, OR SWITCHES	100	100	100	100	100	
A	38	A3-15	DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES RESISTIVE CIRCUITS.	80	88	50	0	100	
A	39	A3-16	DO YOU CALCULATE TOTAL CURRENT FOR SERIES RESISTIVE CIRCUITS.	80	88	50	0	100	
A	40	A3-17	DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES RESISTIVE CIRCUITS.	90	100	50	100	100	
A	41	A3-18	DO YOU CALCULATE POWER DISSIPATION FOR SERIES RESISTIVE CIRCUITS.	80	88	50	100	83	
A	42	A3-19	DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES PARALLEL RESISTIVE CIRCUITS.	80	88	50	0	100	
A	43	A3-20	DO YOU CALCULATE TOTAL CURRENT FOR SERIES PARALLEL RESISTIVE CIRCUITS.	70	75	50	0	83	
A	44	A3-21	DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	90	100	50	100	100	
A	45	A3-22	DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	80	88	50	0	100	
A	46	A3-23	DO YOU CALCULATE POWER DISSIPATION FOR SERIES PARALLEL RESISTIVE CIRCUITS.	80	88	50	100	83	
A	47	A3-24	DO YOU CALCULATE TOTAL RESISTANCE FOR PARALLEL RESISTIVE CIRCUITS.	70	88	0	0	100	
A	48	A3-25	DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RESISTIVE CIRCUITS.	60	75	0	0	83	
A	49	A3-26	DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR PARALLEL RESISTIVE CIRCUITS.	90	88	100	0	100	
A	50	A3-27	DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR PARALLEL RESISTIVE CIRCUITS.	70	88	0	0	100	
A	51	A3-28	DO YOU CALCULATE POWER DISSIPATION FOR PARALLEL RESISTIVE CIRCUITS.	90	88	100	100	83	
B	52	B1-01	DO YOU MEASURE RESISTANCE.	100	100	100	100	100	
B	53	B1-02	DO YOU REPAIR OHMMETERS.	0	0	0	0	0	
B	54	B1-03	DO YOU MEASURE VOLTAGE.	100	100	100	100	100	
B	55	B1-04	DO YOU REPAIR VOLTMETERS.	0	0	0	0	0	MULTIMETER USES
B	56	B1-05	DO YOU REPAIR AMMETERS.	0	0	0	0	0	
B	57	B1-06	DO YOU MEASURE CURRENT.	100	100	100	100	100	
B	58	B1-07	DO YOU USE MULTIMETERS.	100	100	100	100	100	
B	59	B1-08	DO YOU DIRECTLY USE A QUANTITY OF CHARGE CALLED A COULOMB.	0	0	0	0	0	
B	60	B1-09	DO YOU READ SCHEMATICS.	100	100	100	100	100	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
B	61	B2-01 DO YOU USE OR REFER TO THE TERM EFFECTIVE VOLTAGE (RMS).	90	88	100	100	83	
B	62	B2-02 DO YOU USE OR REFER TO THE TERM PEAK TO PEAK VOLTAGE.	100	100	100	100	100	ALTERNATING CURRENT
B	63	B2-03 DO YOU USE OR REFER TO THE TERM AVERAGE VOLTAGE (DC).	100	100	100	100	100	
B	64	B2-04 DO YOU USE OR REFER TO THE TERM WAVE LENGTH.	90	88	100	100	83	
B	65	B2-05 DO YOU USE OR REFER TO THE TERM FREQUENCY.	100	100	100	100	100	
B	66	B2-06 DO YOU USE OR REFER TO THE TERM INSTANTANEOUS VALUE.	30	13	100	100	0	
B	67	B3-01 DO YOU WORK WITH INDUCTORS OR CIRCUITS CONTAINING INDUCTORS, CHOKES, OR CHOKE COILS IN YOUR PRESENT JOB.	40	50	0	100	33	
B	68	B3-02 DO YOU INSPECT INDUCTORS.	50	63	0	100	50	
B	69	B3-03 DO YOU CLEAN INDUCTORS.	40	50	0	100	33	
B	70	B3-04 DO YOU ADJUST INDUCTORS.	50	63	0	100	50	INDUCTORS AND INDUCTIVE REACTANCE
B	71	B3-05 DO YOU REMOVE OR REPLACE INDUCTORS.	50	63	0	100	50	
B	72	B3-06 DO YOU USE OR REFER TO INDUCTANCE.	50	63	0	100	50	
B	73	B3-07 DO YOU USE OR REFER TO HENRIES.	50	63	0	100	50	
B	74	B3-08 DO YOU USE OR REFER TO INDUCTIVE REACTANCE.	30	38	0	100	17	
B	75	B3-09 DO YOU USE OR REFER TO COPPER LOSS IN INDUCTORS.	0	0	0	0	0	
B	76	B3-10 DO YOU USE OR REFER TO HYSTERESIS LOSS IN INDUCTORS.	10	13	0	0	0	
B	77	B3-11 DO YOU USE OR REFER TO EDDY CURRENT LOSS IN INDUCTORS	10	13	0	0	0	
B	78	B3-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTANCE IS PROPORTIONAL TO THE SQUARE OF THE NUMBER OF TURNS OF THE COIL.	0	0	0	0	0	
B	79	B3-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE CROSS SECTIONAL AREA OF THE CORE.	0	0	0	0	0	
B	80	B3-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS INVERSELY PROPORTIONAL TO ITS LENGTH.	0	0	0	0	0	
B	81	B3-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE PERMEABILITY OF THE CORE MATERIAL.	0	0	0	0	0	
B	82	B3-16 DO YOU CALCULATE INDUCTANCE FOR PARTICULAR INDUCTORS USING FORMULAS.	10	13	0	100	0	
B	83	B3-17 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTANCE IN SERIES.	0	0	0	0	0	
B	84	B3-18 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN PARALLEL.	0	0	0	0	0	
B	85	B3-19 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN SERIES-PARALLEL CIRCUITS.	0	0	0	0	0	
B	86	B3-20 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LAGS VOLTAGE IN AC INDUCTOR CIRCUITS.	0	0	0	0	0	
B	87	B3-21 DO YOU CALCULATE INDUCTIVE REACTANCE.	0	0	0	0	0	
B	88	B3-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTIVE REACTANCE IS DIRECTLY PROPORTIONAL TO FREQUENCY.	10	13	0	100	0	
B	89	B3-23 DO YOU WORK WITH POWER INDUCTORS.	30	38	0	100	17	
B	90	B3-24 DO YOU WORK WITH AUDIO FREQUENCY INDUCTORS.	50	63	0	100	50	
B	91	B3-25 DO YOU WORK WITH RADIO FREQUENCY INDUCTORS.	50	63	0	100	50	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
C 92	C1-01	DO YOU WORK WITH CAPACITORS OR CIRCUITS CONTAINING CAPACITORS IN YOUR PRESENT JOB.	90	88	100	100	83	
C 93	C1-02	DO YOU INSPECT CAPACITORS.	100	100	100	100	100	CAPACITORS AND CAPACITIVE REACTANCE
C 94	C1-03	DO YOU CLEAN CAPACITORS.	80	88	50	100	83	
C 95	C1-04	DO YOU ADJUST CAPACITORS.	50	63	0	100	50	
C 96	C1-05	DO YOU TEST CAPACITORS.	80	100	0	100	100	
C 97	C1-06	DO YOU DISCHARGE CAPACITORS.	90	100	50	100	100	
C 98	C1-07	DO YOU REMOVE OR REPLACE CAPACITORS.	100	100	100	100	100	
C 99	C1-08	DO YOU USE OR REFER TO DISTRIBUTED CAPACITANCE.	30	38	0	100	17	
C 100	C1-09	DO YOU USE OR REFER TO ORBITAL STRESS OF ELECTRONS IN A DIELECTRIC.	0	0	0	0	0	
C 101	C1-10	DO YOU USE OR REFER TO FARADS, MICROFARADS, OR PICOFARADS.	100	100	100	100	100	
C 102	C1-11	DO YOU USE OR REFER TO CAPACITANCE.	90	88	100	100	83	
C 103	C1-12	DO YOU USE OR REFER TO DIELECTRIC CONSTANT	20	25	0	0	17	
C 104	C1-13	DO YOU USE OR REFER TO WORKING VOLTAGE RATING OF CAPACITORS	100	100	100	100	100	
C 105	C1-14	DO YOU USE OR REFER TO CAPACITIVE REACTANCE	50	63	0	100	50	
C 106	C1-15	DO YOU USE OR REFER TO CAPACITOR COLOR CODES	80	75	100	100	83	
C 107	C1-16	DO YOU WORK WITH CAPACITORS IN DC CIRCUITS	100	100	100	100	100	
C 108	C1-17	DO YOU WORK WITH CAPACITORS IN AC CIRCUITS	90	88	100	100	83	
C 109	C1-18	DO YOU WORK WITH CAPACITORS IN CIRCUITS WITH BOTH DC AND AC	100	100	100	100	100	
C 110	C1-19	DO YOU WORK WITH CAPACITORS IN DON'T REMEMBER WHICH CIRCUITS	0	0	0	0	0	
C 111	C1-20	DO YOU CALCULATE CAPACITANCE FOR PARTICULAR CAPACITORS USING FORMULAS	20	25	0	100	0	
C 112	C1-21	DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITANCE OF A CAPACITOR IS DIRECTLY PROPORTIONAL TO THE DIELECTRIC CONSTANT	0	0	0	0	0	
C 113	C1-22	DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITANCE OF A CAPACITOR IS INVERSELY PROPORTIONAL TO THE DIELECTRIC THICKNESS	0	0	0	0	0	
C 114	C1-23	DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES	30	38	0	0	33	
C 115	C1-24	DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN PARALLEL	30	38	0	0	33	
C 116	C1-25	DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES-PARALLEL CIRCUITS	20	25	0	0	17	
C 117	C1-26	DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT DOES NOT FLOW THROUGH CAPACITORS, IT ONLY APPEARS TO DO SO	20	13	50	0	17	
C 118	C1-27	DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LEADS VOLTAGE IN AC CAPACITOR CIRCUITS	30	25	50	0	33	
C 119	C1-28	DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITIVE REACTANCE IS INVERSELY PROPORTIONAL TO FREQUENCY	20	25	0	100	17	
C 120	C1-29	DO YOU CALCULATE CAPACITIVE REACTANCE	20	25	0	100	17	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
C 121	C1-30	DO YOU WORK WITH ROTOR-STATOR (VARIABLE) CAPACITORS	60	63	50	100	50	
C 122	C1-31	DO YOU WORK WITH COMPRESSION (TRIMMER) CAPACITORS	60	63	50	100	50	
C 123	C1-32	DO YOU WORK WITH ELECTROLYTIC (FIXED) CAPACITORS	90	100	50	100	100	
C 124	C1-33	DO YOU WORK WITH PAPER (FIXED) CAPACITORS	90	100	50	100	100	
C 125	C1-34	DO YOU WORK WITH MICA (FIXED) CAPACITORS	90	100	50	100	100	
C 126	C1-35	DO YOU WORK WITH CERAMIC (FIXED) CAPACITORS	100	100	100	100	100	
C 127	C1-36	DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF CAPACITORS	10	0	50	0	0	
C 128	C2-01	DO YOU WORK WITH TRANSFORMERS IN YOUR PRESENT JOB	80	75	100	100	83	
C 129	C2-02	DO YOU INSPECT TRANSFORMERS	90	88	100	100	100	
C 130	C2-03	DO YOU CLEAN TRANSFORMERS	80	75	100	0	100	
C 131	C2-04	DO YOU ADJUST TRANSFORMERS	50	38	100	100	33	
C 132	C2-05	DO YOU TROUBLESHOOT TRANSFORMERS	90	88	100	100	100	TRANSFORMERS
C 133	C2-06	DO YOU REMOVE OR REPLACE COMPLETE TRANSFORMERS	90	88	100	100	100	
C 134	C2-07	DO YOU REMOVE OR REPLACE TRANSFORMER PARTS, SUCH AS THE PRIMARY WINDING	0	0	0	0	0	
C 135	C2-08	DO YOU MAKE A DISTINCTION BETWEEN MUTUAL INDUCTION AND MUTUAL INDUCTANCE (M)	0	0	0	0	0	
C 136	C2-09	DO YOU USE THE SYMBOL FOR MUTUAL INDUCTANCE, M	0	0	0	0	0	
C 137	C2-10	DO YOU REFER TO OR USE THE COEFFICIENT OF COUPLING WHEN WORKING WITH TRANSFORMERS	0	0	0	0	0	
C 138	C2-11	DO YOU CALCULATE TURNS RATIOS FOR TRANSFORMERS USING CURRENT OR VOLTAGE RATIOS	0	0	0	0	0	
C 139	C2-12	DO YOU REFER TO REFLECTED IMPEDANCE WHEN WORKING WITH TRANSFORMERS	0	0	0	0	0	
C 140	C2-13	DO YOU CALCULATE IMPEDANCE INTERACTIONS FOR TRANSFORMERS	0	0	0	0	0	
C 141	C2-14	DO YOU WORK WITH AUTOTRANSFORMERS	20	25	0	0	33	
C 142	C2-15	DO YOU WORK WITH POWER TRANSFORMERS	90	88	100	100	100	
C 143	C2-16	DO YOU WORK WITH AUDIO TRANSFORMERS	50	50	50	100	50	
C 144	C2-17	DO YOU WORK WITH RADIO FREQUENCY TRANSFORMERS	40	25	100	100	17	
C 145	C2-18	DO YOU WORK WITH DON'T REMEMBER WHAT TYPE OF TRANSFORMERS	0	0	0	0	0	
C 146	C2-19	DO YOU CHECK TRANSFORMERS FOR OPEN WINDINGS BY MEASURING RESISTANCE	90	88	100	100	100	
C 147	C2-20	DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING RESISTANCE	90	88	100	100	100	
C 148	C2-21	DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING OUTPUT VOLTAGES	80	75	100	100	83	
C 149	C2-22	DO YOU MEASURE RESISTANCE OF TRANSFORMER WINDINGS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-DOWN TURNS RATIO	40	25	100	0	33	
C 150	C2-23	DO YOU MEASURE OUTPUT VOLTAGE OF TRANSFORMERS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-DOWN TURNS RATIO	50	38	100	100	33	
C 151	C2-24	DO YOU REFER TO BASIC TRANSFORMER SCHEMATIC SYMBOLS FOR TRANSFORMERS	90	88	100	100	100	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY=TS=	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
C 152	C2-25	DO YOU REFER TO MULTIPLE SECONDARY-WINDINGS SCHEMATIC SYMBOLS FOR TRANSFORMERS	80	75	100	100	83	
C 153	C2-26	DO YOU REFER TO MULTIPLE TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS	80	75	100	100	83	
C 154	C2-27	DO YOU REFER TO CENTER TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS	80	75	100	100	83	
C 155	C2-28	DO YOU REFER TO AIR CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS	40	38	50	100	33	
C 156	C2-29	DO YOU REFER TO IRON CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS	60	63	50	100	67	
C 157	C2-30	DO YOU REFER TO COMBINATIONS OF THE ABOVE SCHEMATIC SYMBOLS FOR TRANSFORMERS	60	50	100	100	50	
C 158	C2-31	DO YOU DETERMINE PHASE RELATIONSHIPS BETWEEN SECONDARY AND PRIMARY VOLTAGES OF TRANSFORMERS USING SCHEMATIC SYMBOLS	50	38	100	100	33	
C 159	C2-32	DO YOU DETERMINE OR REFER TO THE TYPE OF CORE IN TRANSFORMERS YOU WORK WITH	20	25	0	100	17	
C 160	C2-33	DO YOU REFER TO OR USE THE GENERAL RULE THAT THE TURNS RATIO OF A TRANSFORMER IS EQUAL TO THE VOLTAGE RATIO	0	0	0	0	0	
C 161	C2-34	DO YOU USE OR REFER TO STEP-UP OR STEP-DOWN RATIOS FOR TRANSFORMERS	40	50	0	100	50	
C 162	C2-35	DO YOU CALCULATE VOLTAGE RATIOS FOR TRANSFORMERS USING TURNS RATIOS	0	0	0	0	0	
C 163	C2-36	DO YOU CALCULATE CURRENT RATIOS FOR TRANSFORMERS USING TURNS RATIOS	0	0	0	0	0	
C 164	C2-37	DOES YOUR JOB INVOLVE ANY TASKS DEALING WITH THREE PHASE TRANSFORMERS	50	38	100	100	33	
C 165	C2-38	DO YOU INSPECT THREE PHASE TRANSFORMERS	50	38	100	100	33	
C 166	C2-39	DO YOU CLEAN OR LUBRICATE THREE PHASE TRANSFORMERS	30	13	100	0	17	
C 167	C2-40	DO YOU ADJUST THREE PHASE TRANSFORMERS	20	0	100	0	0	
C 168	C2-41	DO YOU TROUBLESHOOT THREE PHASE TRANSFORMERS	50	38	100	100	33	
C 169	C2-42	DO YOU REMOVE OR REPLACE COMPLETE THREE PHASE TRANSFORMERS	50	38	100	100	33	
C 170	C2-43	DO YOU REMOVE OR REPLACE THREE PHASE TRANSFORMER PARTS SUCH AS WINDINGS	0	0	0	0	0	
C 171	C3-01	DO YOU USE OR REFER TO PERMANENT MAGNETS	60	50	100	100	50	MAGNETISM
C 172	C3-02	DO YOU USE OR REFER TO TEMPORARY MAGNETS	10	13	0	0	17	
C 173	C3-03	DO YOU USE OR REFER TO RETENTIVITY OF MAGNETIC MATERIALS	0	0	0	0	0	
C 174	C3-04	DO YOU USE OR REFER TO RELUCTANCE OF MAGNETIC MATERIALS	0	0	0	0	0	
C 175	C3-05	DO YOU USE OR REFER TO PERMEABILITY OF MAGNETIC MATERIALS	0	0	0	0	0	
C 176	C3-06	DO YOU USE OR REFER TO RESIDUAL MAGNETISM	0	0	0	0	0	
C 177	C3-07	DO YOU USE OR REFER TO MAGNETIC LINES OF FORCE OR FLUX	10	13	0	0	17	
C 178	C3-08	DO YOU USE OR REFER TO WEBER'S THEORY OF MAGNETISM	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
C 179	C3-09	DO YOU USE OR REFER TO DOMAIN THEORY OF MAGNETISM	0	0	0	0	0	
C 180	C3-10	DO YOU USE OR REFER TO MAGNETIC INDUCTION	10	13	0	0	17	
C 181	C3-11	DO YOU USE OR REFER TO FLUX DENSITY	0	0	0	0	0	
C 182	C3-12	DO YOU USE OR REFER TO THE GENERAL RULE THAT FOR MAGNETIC POLES, LIKE POLES REPEL AND UNLIKE POLES ATTRACT	40	25	100	100	17	
C 183	C3-13	DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE DIRECTION OF MAGNETIC FIELDS ABOUT STRAIGHT WIRES	20	13	50	0	17	
C 184	C3-14	DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE NORTH POLE OF A CURRENT CARRYING COIL	10	0	50	0	0	
D 185	D1-01	DO YOU WORK WITH RC, LR, RCL CIRCUITS IN YOUR PRESENT JOB	70	63	100	100	67	
D 186	D1-02	DO YOU USE OR REFER TO VECTORS WHEN WORKING WITH RCL CIRCUITS	10	13	0	0	17	
D 187	D1-03	DO YOU USE OR REFER TO PYTHAGOREAN THEOREM WHEN WORKING WITH RCL CIRCUITS	0	0	0	0	0	RCL CIRCUITS
D 188	D1-04	DO YOU USE OR REFER TO SINE WHEN WORKING WITH RCL CIRCUITS	0	0	0	0	0	
D 189	D1-05	DO YOU USE OR REFER TO COSINE WHEN WORKING WITH RCL CIRCUITS	0	0	0	0	0	
D 190	D1-06	DO YOU USE OR REFER TO TANGENT WHEN WORKING WITH RCL CIRCUITS	0	0	0	0	0	
D 191	D1-07	DO YOU USE OR REFER TO WATTS WHEN WORKING WITH RCL CIRCUITS	30	38	0	100	33	
D 192	D1-08	DO YOU USE OR REFER TO TRUE POWER (PT) WHEN WORKING WITH RCL CIRCUITS	30	38	0	100	33	
D 193	D1-09	DO YOU USE OR REFER TO MAXIMUM POWER (PM) WHEN WORKING WITH RCL CIRCUITS	40	38	50	100	33	
D 194	D1-10	DO YOU USE OR REFER TO AVERAGE POWER (PAVE) WHEN WORKING WITH RCL CIRCUITS	40	25	100	100	17	
D 195	D1-11	DO YOU USE OR REFER TO APPARENT POWER (PA) WHEN WORKING WITH RCL CIRCUITS	10	13	0	100	0	
D 196	D1-12	DO YOU USE OR REFER TO POWER FACTOR (PF) WHEN WORKING WITH RCL CIRCUITS	10	13	0	0	17	
D 197	D1-13	DO YOU USE OR REFER TO RESONANT CIRCUITS WHEN WORKING WITH RCL CIRCUITS	30	38	0	100	33	
D 198	D1-14	DO YOU USE OR REFER TO BANDWIDTH WHEN WORKING WITH RCL CIRCUITS	30	38	0	100	33	
D 199	D1-15	DO YOU USE OR REFER TO SELECTIVITY WHEN WORKING WITH RCL CIRCUITS	30	38	0	100	33	
D 200	D1-16	DO YOU USE OR REFER TO RESONANT FREQUENCY WHEN WORKING WITH RCL CIRCUITS	30	38	0	100	33	
D 201	D1-17	DO YOU USE OR REFER TO HALF POWER POINTS WHEN WORKING WITH RCL CIRCUITS	20	25	0	100	17	
D 202	D1-18	DO YOU USE OR REFER TO BANDPASS REGION WHEN WORKING WITH RCL CIRCUITS	30	38	0	100	33	
D 203	D1-19	DO YOU USE OR REFER TO CIRCUIT Q WHEN WORKING WITH RCL CIRCUITS	20	25	0	100	17	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031
D 204	01-20 DO YOU USE OR REFER TO TANK CIRCUITS WHEN WORKING WITH RCL CIRCUITS	30	38	0	100	33
D 205	01-21 DO YOU DETERMINE VALUES OF TRIGONOMETRIC FUNCTIONS USING FORMULAS	10	13	0	0	17
D 206	01-22 DO YOU DRAW VOLTAGE, CURRENT, OR IMPEDANCE VECTOR DIAGRAMS FOR CIRCUITS	10	13	0	0	17
D 207	01-23 DO YOU CALCULATE TOTAL IMPEDANCE FOR CAPACITIVE CIRCUITS	10	13	0	0	17
D 208	01-24 DO YOU CALCULATE PHASE ANGLES BETWEEN IMPEDANCE AND RESISTANCE IN CAPACITIVE CIRCUITS	0	0	0	0	0
D 209	01-25 DO YOU CALCULATE TOTAL IMPEDANCE FOR SERIES RCL CIRCUITS	0	0	0	0	0
D 210	01-26 DO YOU CALCULATE IMPEDANCE ANGLES FOR SERIES RCL CIRCUITS	0	0	0	0	0
D 211	01-27 DO YOU CALCULATE APPARENT POWER (PA) FOR SERIES RCL CIRCUITS	0	0	0	0	0
D 212	01-28 DO YOU CALCULATE TRUE POWER (PT) FOR SERIES RCL CIRCUITS	0	0	0	0	0
D 213	01-29 DO YOU CALCULATE POWER FACTORS (PF) FOR SERIES RCL CIRCUITS	0	0	0	0	0
D 214	01-30 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RCL CIRCUITS	10	13	0	0	17
D 215	01-31 DO YOU CALCULATE IMPEDANCE ANGLES FOR PARALLEL RCL CIRCUITS	0	0	0	0	0
D 216	01-32 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING THE ASSUMED VOLTAGE METHOD	0	0	0	0	0
D 217	01-33 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING OHM'S LAW	10	13	0	0	17
D 218	01-34 DO YOU CHECK CAPACITORS USING OHMMETERS	60	63	50	100	67
D 219	01-35 DO YOU CHECK CAPACITORS USING SUBSTITUTION	40	50	0	0	67
D 220	01-36 DO YOU CHECK INDUCTORS USING OHMMETERS	50	38	100	100	33
D 221	01-37 DO YOU CHECK INDUCTORS USING SUBSTITUTION	20	25	0	0	33
D 222	01-38 DO YOU USE OR REFER TO THE GENERAL RULE THAT THETA= 0, PF = 1, AND PA = PT FOR RESONANT CIRCUITS	0	0	0	0	0
D 223	01-39 DO YOU CALCULATE RESONANT FREQUENCIES FOR RCL CIRCUITS	10	13	0	100	0
D 224	01-40 DO YOU USE OR REFER TO THE GENERAL RULE THAT IMPEDANCE IS MINIMUM AND CURRENT MAXIMUM AT THE RESONANT FREQUENCY FOR SERIES RCL CIRCUITS	10	13	0	100	0
D 225	01-41 DO YOU USE OR REFER TO THE GENERAL RULE THAT LINE CURRENT IS MINIMUM AND IMPEDANCE MAXIMUM AT RESONANT FREQUENCY FOR PARALLEL RCL CIRCUITS	0	0	0	0	0
D 226	01-42 DO YOU USE OR REFER TO THE GENERAL RULE THAT HALF POWER POINTS ARE AT 70.7 PERCENT OF THE PEAK CURRENT VALUE	30	25	50	100	17
D 227	01-43 DO YOU USE OR REFER TO THE GENERAL RULE THAT BANDWIDTH IS INVERSELY PROPORTIONAL TO Q	10	13	0	100	0
D 228	01-44 DO YOU DETERMINE HOW CHANGES IN FREQUENCY, RESISTANCE, CAPACITANCE, OR INDUCTANCE WILL AFFECT CURRENT OR PHASE ANGLES FOR RCL CIRCUITS	10	13	0	100	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
D 229	D2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH, USE, OR REFER TO SERIES OR PARALLEL RESONANT CIRCUITS OR TIME CONSTANTS	30	38	0	0	33	
D 230	D2-02 DO YOU WORK WITH, USE, OR REFER TO TIME CONSTANTS	30	38	0	0	33	
D 231	D2-03 DO YOU WORK WITH, USE, OR REFER TO AVAILABLE VOLTAGE	20	25	0	0	17	SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)
D 232	D2-04 DO YOU WORK WITH, USE, OR REFER TO TRANSIENT INTERVALS	20	25	0	0	17	
D 233	D2-05 DO YOU USE OR REFER TO THE GENERAL RULE THAT A CAPACITOR IS FULLY CHARGED (OR DISCHARGED) AFTER FIVE (5) TIME CONSTANTS (TC)	20	25	0	0	17	
D 234	D2-06 DO YOU USE OR REFER TO UNIVERSAL TIME CONSTANT CHARTS	0	0	0	0	0	
D 235	D2-07 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CIRCUIT CURRENT OR COMPONENT VOLTAGES AFTER A SPECIFIC TIME FOR RC OR LR CIRCUITS	20	25	0	0	17	
D 236	D2-08 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE THE TIME REQUIRED FOR CIRCUIT CURRENT OR COMPONENT VOLTAGES TO REACH SPECIFIC VALUES FOR RC OR LR CIRCUITS	10	13	0	0	17	
D 237	D2-09 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE COMPONENT VALUES REQUIRED FOR CIRCUIT CURRENT AND COMPONENT VOLTAGES TO REACH SPECIFIC VALUES IN SPECIFIC TIMES	10	13	0	0	17	
D 238	D2-10 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT IN LR CIRCUITS REACHES ITS MINIMUM VALUE (OR ZERO) AFTER FIVE (5) TIME CONSTANTS	0	0	0	0	0	
D 239	D3-01 DO YOU WORK WITH CIRCUITS USED AS FILTERS IN YOUR PRESENT JOB	80	100	0	100	100	
D 240	D3-02 DO YOU INSPECT FILTER CIRCUITS	70	88	0	100	83	
D 241	D3-03 DO YOU CLEAN FILTER CIRCUITS	40	50	0	0	50	
D 242	D3-04 DO YOU ALIGN OR ADJUST FILTER CIRCUITS	50	63	0	100	50	
D 243	D3-05 DO YOU TROUBLESHOOT TO THE FILTER CIRCUIT LEVEL	60	75	0	100	67	FILTERS
D 244	D3-06 DO YOU TROUBLESHOOT TO COMPONENT PARTS	60	75	0	100	67	
D 245	D3-07 DO YOU REMOVE OR REPLACE THE COMPLETE FILTER CIRCUIT	70	88	0	100	83	
D 246	D3-08 DO YOU REMOVE OR REPLACE FILTER CIRCUIT COMPONENT PARTS	60	75	0	100	67	
D 247	D3-09 DO YOU WORK WITH LOW PASS FILTERS	50	63	0	100	50	
D 248	D3-10 DO YOU WORK WITH HIGH PASS FILTERS	50	63	0	100	50	
D 249	D3-11 DO YOU WORK WITH BANDPASS FILTERS	50	63	0	100	50	
D 250	D3-12 DO YOU WORK WITH BAND-REJECT FILTERS	30	38	0	100	17	
D 251	D3-13 DON'T REMEMBER WHICH TYPE OF FILTER YOU WORK WITH	30	38	0	0	50	
D 252	D3-14 DO YOU WORK WITH L-SECTION FILTER CONFIGURATION	40	50	0	100	33	
D 253	D3-15 DO YOU WORK WITH T-SECTION FILTER CONFIGURATION	40	50	0	100	33	
D 254	D3-16 DO YOU WORK WITH PI-SECTION FILTER CONFIGURATION	40	50	0	100	33	
D 255	D3-17 DON'T REMEMBER WHICH TYPE FILTER CONFIGURATION	10	13	0	0	17	
D 256	D3-18 DO THE FILTERS YOU WORK WITH USE PARALLEL RESONANT CIRCUITS	30	38	0	100	17	
D 257	D3-19 DO THE FILTERS YOU WORK WITH USE SERIES-PARALLEL CIRCUITS	40	50	0	100	33	
D 258	D3-20 DO THE FILTERS YOU WORK WITH USE SERIES RESONANT CIRCUITS	30	38	0	100	17	

T-SR GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSR	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
D 459	D3-21	DON'T REMEMBER WHICH TYPE OF BASIC CIRCUIT	30	38	0	0	50	
D 460	D3-22	DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CAPACITANCE OR INDUCTANCE VALUES REQUIRED FOR SPECIFIC FILTERS	20	25	0	0	17	
E 461	E1-01	DO YOU WORK WITH COUPLING DEVICES IN YOUR PRESENT JOB	30	38	0	100	33	
E 462	E1-02	DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH RC COUPLING	40	50	0	100	50	
E 463	E1-03	DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH IMPEDANCE COUPLING	40	50	0	100	50	COUPLING
E 464	E1-04	DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH TRANSFORMER COUPLING	30	38	0	100	33	
E 465	E1-05	DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM RC COUPLING	40	50	0	100	50	
E 466	E1-06	DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM IMPEDANCE COUPLING	40	50	0	100	50	
E 467	E1-07	DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM TRANSFORMER COUPLING	30	38	0	100	33	
E 468	E1-08	DO YOU WORK WITH DIRECTLY COUPLED CIRCUITS	40	50	0	100	50	
E 469	E1-09	DO YOU WORK WITH CAPACITIVE-RESISTIVE COUPLED CIRCUITS	40	50	0	100	50	
E 470	E1-10	DO YOU WORK WITH CAPACITIVE-INDUCTIVE COUPLED CIRCUITS	30	38	0	100	33	
E 471	E1-11	DO YOU WORK WITH TRANSFORMER COUPLED CIRCUITS	30	38	0	100	33	
E 472	E1-12	DON'T REMEMBER WHICH TYPE OF COUPLING CIRCUITS	0	0	0	0	0	
E 473	E2-01	IN YOUR PRESENT JOB, DO YOU PERFORM SOLDERING TECHNIQUES OR INSPECT OR EVALUATE SOLDERED CONNECTIONS	100	100	100	100	100	
E 474	E2-02	DO YOU SELECT TYPE OF SOLDER TO USE	100	100	100	100	100	
E 475	E2-03	DO YOU ADD FLUX TO CONNECTIONS	100	100	100	100	100	
E 476	E2-04	DO YOU CLEAN CONNECTIONS USING SOLVENTS	100	100	100	100	100	SOLDERING
E 477	E2-05	DO YOU STRIP INSULATION FROM WIRES	100	100	100	100	100	
E 478	E2-06	DO YOU CONNECT OR DISCONNECT HEAT SINKS	100	100	100	100	100	
E 479	E2-07	DO YOU BEND OR SHAPE WIRES OR LEADS	100	100	100	100	100	
E 480	E2-08	DO YOU CUT WIRES	100	100	100	100	100	
E 481	E2-09	DO YOU FILE OR SHAPE SOLDERING IRON TIPS	100	100	100	100	100	
E 482	E2-10	DO YOU TIN SOLDERING IRON TIPS	100	100	100	100	100	
E 483	E2-11	DO YOU CLEAN SOLDERING IRON TIPS	100	100	100	100	100	
E 484	E2-12	DO YOU CLEAN ELECTRICAL SURFACES USING ERASERS	90	88	100	100	83	
E 485	E2-13	DO YOU TIN OR PRE-TIN CONDUCTORS	100	100	100	100	100	
E 486	E2-14	DO YOU INSPECT SOLDERED CONNECTIONS	100	100	100	100	100	
E 487	E2-15	DO YOU DESOLDER CONNECTIONS BY WICKING	90	88	100	0	100	
E 488	E2-16	DO YOU DESOLDER CONNECTIONS USING VACUUM DESOLDERING TOOLS	80	100	0	100	100	
E 489	E2-17	DO YOU CUT COMPONENT LEADS TO REMOVE COMPONENTS	80	75	100	0	83	
E 490	E2-18	DO YOU CRUSH COMPONENTS FOR REMOVAL	40	50	0	100	50	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
E 291	E2-19	DO YOU MAKE HANDWIRE CONNECTIONS	100	100	100	100	100	
E 292	E2-20	DO YOU MAKE PRINTED CIRCUIT BOARD CONNECTIONS	100	100	100	100	100	
E 293	E2-21	DO YOU SOLDER PASSIVE COMPONENTS SUCH AS RESISTORS OR CAPACITORS ON PRINTED CIRCUIT BOARDS	100	100	100	100	100	
E 294	E2-22	DO YOU SOLDER ACTIVE COMPONENTS SUCH AS SOLID-STATE DIODES OR TRANSISTORS ON PRINTED CIRCUIT BOARDS	100	100	100	100	100	
E 295	E3-01	DO YOU WORK WITH RELAYS ON YOUR PRESENT JOB	100	100	100	100	100	
E 296	E3-02	DO YOU ADJUST RELAYS	30	38	0	0	50	
E 297	E3-03	DO YOU CLEAN RELAYS	40	38	50	0	50	
E 298	E3-04	DO YOU INSPECT RELAYS	80	88	50	100	100	
E 299	E3-05	DO YOU REMOVE OR REPLACE COMPLETE RELAYS	100	100	100	100	100	RELAYS
E 300	E3-06	DO YOU REMOVE OR REPLACE PARTS OR RELAYS	0	0	0	0	0	
E 301	E3-07	DO YOU TROUBLESHOOT RELAYS	90	88	100	100	100	
E 302	E3-08	DO YOU STRAIGHTEN RELAY CONTACTS	40	25	100	0	33	
E 303	E3-09	DO YOU PERFORM TASKS ON RELAY CONTACTS	50	50	50	0	50	
E 304	E3-10	DO YOU PERFORM TASKS ON RELAY CORES	0	0	0	0	0	
E 305	E3-11	DO YOU PERFORM TASKS ON RELAY COILS	0	0	0	0	0	
E 306	E3-12	DO YOU PERFORM TASKS ON RELAY ARMATURES	0	0	0	0	0	
E 307	E3-13	DO YOU PERFORM TASKS ON RELAY SPRINGS	0	0	0	0	0	
E 308	E3-14	DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY OPEN (NO) SCHEMATIC SYMBOLS FOR RELAYS	80	75	100	100	67	
E 309	E3-15	DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY CLOSED (NC) SCHEMATIC SYMBOLS FOR RELAYS	80	75	100	100	67	
E 310	E3-16	DO YOU USE OR REFER TO SINGLE POLE, DOUBLE THROW (SPDT) SCHEMATIC SYMBOLS FOR RELAYS	80	75	100	100	67	
E 311	E3-17	DO YOU USE OR REFER TO DOUBLE POLE, DOUBLE THROW (DPDT) SCHEMATIC SYMBOLS FOR RELAYS	100	100	100	100	100	
E 312	E3-18	DO YOU USE OR REFER TO OTHER RELAY SYMBOLS SCHEMATIC SYMBOLS FOR RELAYS	90	88	100	100	83	
E 313	E3-19	DO YOU CHECK ELECTRICAL CONTINUITY OF COILS BY MEASURING RESISTANCE	90	88	100	100	83	
F 314	F1-01	IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH MICROPHONES	10	13	0	0	17	
F 315	F1-02	DO YOU INSPECT MICROPHONES	10	13	0	0	17	
F 316	F1-03	DO YOU CLEAN MICROPHONES	10	13	0	0	17	
F 317	F1-04	DO YOU OPERATE MICROPHONES	10	13	0	0	17	MICROPHONES
F 318	F1-05	DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OR MICROPHONES	0	0	0	0	0	
F 319	F1-06	DO YOU TROUBLESHOOT DOWN TO MICROPHONE PARTS	10	13	0	0	17	
F 320	F1-07	DO YOU REMOVE OR REPLACE COMPLETE MICROPHONES	10	13	0	0	17	
F 321	F1-08	DO YOU REMOVE OR REPLACE MICROPHONE PARTS	10	13	0	0	17	
F 322	F1-09	DO YOU PERFORM TASKS ON CARBON MICROPHONES	0	0	0	0	0	
F 323	F1-10	DO YOU PERFORM TASKS ON CAPACITOR MICROPHONES	0	0	0	0	0	
F 324	F1-11	DO YOU PERFORM TASKS ON CRYSTAL MICROPHONES	0	0	0	0	0	
F 325	F1-12	DO YOU PERFORM TASKS ON DYNAMIC MICROPHONES	10	13	0	0	17	
F 326	F1-13	DO YOU PERFORM TASKS ON VELOCITY RIBBON MICROPHONES	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
F 327	F2-01	IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH SPEAKERS	20	25	0	0	33	
F 328	F2-02	DO YOU INSPECT SPEAKERS	20	25	0	0	33	SPEAKERS
F 329	F2-03	DO YOU CLEAN SPEAKERS	20	25	0	0	33	
F 330	F2-04	DO YOU OPERATE SPEAKERS	20	25	0	0	33	
F 331	F2-05	DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OF SPEAKERS	10	13	0	0	17	
F 332	F2-06	DO YOU TROUBLESHOOT DOWN TO SPEAKER PARTS	10	13	0	0	17	
F 333	F2-07	DO YOU REMOVE OR REPLACE COMPLETE SPEAKERS	20	25	0	0	33	
F 334	F2-08	DO YOU REMOVE OR REPLACE SPEAKER PARTS	10	13	0	0	17	
F 335	F2-09	DO YOU PERFORM ANY TASKS ON SPEAKER CONES	0	0	0	0	0	
F 336	F2-10	DO YOU PERFORM ANY TASKS ON SPEAKER SPIDERS	0	0	0	0	0	
F 337	F2-11	DO YOU PERFORM ANY TASKS ON SPEAKER FIELD COILS	10	13	0	0	17	
F 338	F2-12	DO YOU PERFORM ANY TASKS ON SPEAKER VOICE COILS	10	13	0	0	17	
F 339	F2-13	DO YOU PERFORM ANY TASKS ON SPEAKER PERMANENT MAGNETS	0	0	0	0	0	
F 340	F2-14	DO YOU PERFORM ANY TASKS ON SPEAKER ELECTROMAGNETS	0	0	0	0	0	
F 341	F2-15	DO YOU PERFORM ANY TASKS ON SPEAKER SOFT IRON CORES	0	0	0	0	0	
F 342	F3-01	DO YOU USE OSCILLOSCOPES IN YOUR PRESENT JOB	100	100	100	100	100	
F 343	F3-02	DO YOU USE OSCILLOSCOPES TO PERFORM OPERATIONAL CHECKS	100	100	100	100	100	
F 344	F3-03	DO YOU USE OSCILLOSCOPES TO PERFORM ALIGNMENTS OR ADJUSTMENTS	100	100	100	100	100	OSCILLOSCOPES
F 345	F3-04	DO YOU USE OSCILLOSCOPES TO TROUBLESHOOT ELECTRONIC CIRCUITS	100	100	100	100	100	
F 346	F3-05	DO YOU USE OSCILLOSCOPES TO MEASURE FREQUENCY	100	100	100	100	100	
F 347	F3-06	DO YOU USE OSCILLOSCOPES TO MEASURE TIME	100	100	100	100	100	
F 348	F3-07	DO YOU USE OSCILLOSCOPES TO OBSERVE LISAJOUS PATTERNS	30	38	0	100	17	
F 349	F3-08	DO YOU USE OSCILLOSCOPES TO OBSERVE SIGNALS WHILE UTILIZING ATTENUATOR PROBES	90	88	100	100	83	
F 350	F3-09	DO YOU USE OSCILLOSCOPES TO MAKE FREQUENCY OR TIME MEASUREMENTS USING DELAY TIME MULTIPLIERS	80	75	100	100	67	
F 351	F3-10	DO YOU USE OSCILLOSCOPES TO MEASURE AC VOLTAGE	90	88	100	100	83	
F 352	F3-11	DO YOU USE OSCILLOSCOPES TO MEASURE OR OBSERVE SIGNALS AFTER FIRST ADJUSTING THE GAIN AND DC BAL CONTROLS	70	63	100	100	50	
F 353	F3-12	DO YOU USE OSCILLOSCOPES TO MEASURE DC VOLTAGE	100	100	100	100	100	
G 354	G1-01	DO YOU WORK WITH SEMICONDUCTOR DIODES IN YOUR PRESENT JOB	100	100	100	100	100	
G 355	G1-02	DO YOU INSPECT DIODES	90	88	100	100	100	
G 356	G1-03	DO YOU REMOVE OR REPLACE DIODES	100	100	100	100	100	
G 357	G1-04	DO YOU CHECK DIODES USING AN INSTRUMENT	90	100	50	100	100	SEMICONDUCTOR DIODES
G 358	G1-05	DO YOU USE ENERGY LEVEL DIAGRAMS IN YOUR WORK WITH DIODES	0	0	0	0	0	
G 359	G1-06	DO YOU USE PN JUNCTION DIODE CHARACTERISTIC CURVES, TOGETHER WITH VALUES OF FORWARD AND REVERSE BIAS VOLTAGE, TO COMPUTE FORWARD OR REVERSE BIAS RESISTANCE	10	13	0	0	17	
G 360	G1-07	DO YOU COMPUTE FORWARD OR REVERSE BIAS RESISTANCE FOR DIODES	10	13	0	0	17	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031
G	361	G1-08 DO YOU USE OR REFER TO THE GENERAL RULE THAT TEMPERATURE CAN AFFECT THE OPERATION OF DIODES	50	50	50	0	50
G	362	G1-09 DO YOU IDENTIFY SEMICONDUCTOR DIODES AS OPPOSED TO OTHER ELECTRONIC COMPONENTS, SUCH AS RESISTORS, BASED ON THEIR PHYSICAL APPEARANCE	100	100	100	100	100
G	363	G1-10 DO YOU REFER TO OR DO YOU DETERMINE THE GENERAL EFFECTS OF DOPING ON CURRENT FLOW	0	0	0	0	0
G	364	G1-11 DO YOU USE OR REFER TO MEASUREMENTS OF FORWARD BIAS RESISTANCE	60	75	0	100	83
G	365	G1-12 DO YOU USE OR REFER TO DIODE COLOR CODING	40	50	0	100	50
G	366	G1-13 DO YOU USE OR REFER TO CENTRIFUGAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	0	0	0	0	0
G	367	G1-14 DO YOU USE OR REFER TO CENTRIPETAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	0	0	0	0	0
G	368	G1-15 DO YOU USE OR REFER TO DIODE NUMBERING SYSTEM, SUCH AS IN 538	90	100	50	100	100
G	369	G1-16 DO YOU USE OR REFER TO KINETIC ENERGY OF AN ELECTRON MOVING IN ORBIT	0	0	0	0	0
G	370	G1-17 DO YOU USE OR REFER TO POTENTIAL ENERGY OF AN ELECTRON MOVING IN ORBIT	0	0	0	0	0
G	371	G1-18 DO YOU USE OR REFER TO MEASUREMENTS OF REVERSE BIAS RESISTANCE	60	75	0	0	100
G	372	G1-19 DO YOU USE OR REFER TO NUMBER OF ELECTRONS IN A PARTICULAR SHELL OR ORBIT	0	0	0	0	0
G	373	G1-20 DO YOU USE OR REFER TO PERMISSIBLE ENERGY LEVELS OF AN ORBITING ELECTRON	0	0	0	0	0
G	374	G1-21 DO YOU USE OR REFER TO FORBIDDEN ENERGY LEVELS OF AN ORBITING ELECTRON	0	0	0	0	0
G	375	G1-22 DO YOU USE OR REFER TO VALENCE ELECTRONS (THOSE IN THE OUTERMOST SHELL)	0	0	0	0	0
G	376	G1-23 DO YOU USE OR REFER TO ATOMIC NUMBER (TOTAL NUMBER OF ELECTRONS IN ATOM)	0	0	0	0	0
G	377	G1-24 DO YOU USE OR REFER TO SYMBOLS ON THE DIODE WHICH INDICATE THE CATHODE END	100	100	100	100	100
G	378	G1-25 DO YOU NEED TO KNOW WHICH MATERIALS ARE USED IN THE CONSTRUCTION OF DIODES SUCH AS GERMANIUM OR SILICON	10	13	0	0	17
G	379	G1-26 DO YOU NEED TO KNOW THAT SEMICONDUCTORS HAVE NEGATIVE TEMPERATURE COEFFICIENTS OF RESISTANCE (AS TEMPERATURE INCREASES RESISTANCE DECREASES)	40	50	0	100	50
G	380	G1-27 DO YOU USE OR REFER TO PN JUNCTION DIODE CHARACTERISTIC CURVES, SUCH AS VOLTAGE - CURRENT CHARACTERISTIC CURVES (PERHAPS YOU DO THIS TO IDENTIFY POINTS OF STRUCTURAL BREAKDOWN OR OPERATING REGIONS)	20	25	0	0	33
G	381	G1-28 DO YOU DETERMINE WHETHER PN JUNCTION DIODES ARE FORWARD BIASED OR REVERSE BIASED WHEN YOU READ OR INTERPRET CIRCUIT DIAGRAMS	40	50	0	0	67
G	382	G1-29 DO YOU USE OR REFER TO VALENCE BAND IN SEMICONDUCTOR MATERIALS	0	0	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
G	383	G1-30 DO YOU USE OR REFER TO FORBIDDEN BAND IN SEMICONDUCTOR MATERIALS	0	0	0	0	0	
G	384	G1-31 DO YOU USE OR REFER TO CONDUCTION BAND IN SEMICONDUCTOR MATERIALS	0	0	0	0	0	
G	385	G1-32 DO YOU USE OR REFER TO COVALENT BONDING IN SEMICONDUCTOR MATERIALS	0	0	0	0	0	
G	386	G1-33 DO YOU USE OR REFER TO ELECTRON-HOLE PAIR CREATED IN SEMICONDUCTORS	0	0	0	0	0	
G	387	G1-34 DO YOU USE OR REFER TO ELECTRON FLOW OR HOLE FLOW IN SEMICONDUCTORS	0	0	0	0	0	
G	388	G1-35 DO YOU USE OR REFER TO DONOR IMPURITY IN SEMICONDUCTORS	0	0	0	0	0	
G	389	G1-36 DO YOU USE OR REFER TO ACCEPTOR IMPURITY IN SEMICONDUCTORS	0	0	0	0	0	
G	390	G1-37 DO YOU USE OR REFER TO P-TYPE SEMICONDUCTOR MATERIAL	20	25	0	100	17	
G	391	G1-38 DO YOU USE OR REFER TO N-TYPE SEMICONDUCTOR MATERIAL	20	25	0	100	17	
G	392	G1-39 DO YOU USE OR REFER TO MAJORITY CARRIERS IN SEMICONDUCTORS	0	0	0	0	0	
G	393	G1-40 DO YOU USE OR REFER TO MINORITY CARRIERS IN SEMICONDUCTORS	0	0	0	0	0	
G	394	G1-41 DO YOU USE OR REFER TO JUNCTION RECOMBINATION IN SEMICONDUCTORS	0	0	0	0	0	
G	395	G1-42 DO YOU USE OR REFER TO DEPLETION REGION IN SEMICONDUCTORS	10	13	0	0	17	
G	396	G1-43 DO YOU USE OR REFER TO RELATIONSHIP BETWEEN BARRIER WIDTH AND DIFFERENCE OF POTENTIAL	10	13	0	0	17	
G	397	G1-44 DO YOU USE OR REFER TO THE 10:1 BACK TO FRONT RESISTANCE RATIO FOR DIODES	60	63	50	100	67	
G	398	G1-45 DO YOU USE OR REFER TO BARRIER HEIGHT IN SEMICONDUCTORS	10	13	0	0	17	
G	399	G1-46 DO YOU USE OR REFER TO DIODE SUBSTITUTION INFORMATION	80	100	0	100	100	
G	400	G1-47 DO YOU USE OR REFER TO MAXIMUM AVERAGE FORWARD CURRENT DIODE RATINGS	40	50	0	0	67	
G	401	G1-48 DO YOU USE OR REFER TO PEAK RECURRENT FORWARD CURRENT DIODE RATINGS	40	50	0	0	67	
G	402	G1-49 DO YOU USE OR REFER TO MAXIMUM SURGE CURRENT DIODE RATINGS	50	63	0	0	67	
G	403	G1-50 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE DIODE RATINGS	50	63	0	0	67	
G	404	G2-01 DO YOU WORK WITH TRANSISTORS IN YOUR PRESENT JOB.	100	100	100	100	100	
G	405	G2-02 DO YOU INSPECT TRANSISTORS	90	88	100	100	100	
G	406	G2-03 DO YOU REMOVE OR REPLACE TRANSISTORS	100	100	100	100	100	
G	407	G2-04 DO YOU CHECK TRANSISTORS USING AN INSTRUMENT	90	100	50	100	100	TRANSISTORS
G	408	G2-05 DO YOU USE OR REFER TO EMITTER - BASE (EB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	90	100	50	100	100	
G	409	G2-06 DO YOU USE OR REFER TO COLLECTOR - BASE (CB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	90	100	50	100	100	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DT-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
G 410	G2-07 DO YOU USE OR REFER TO EMITTER - COLLECTOR (EC) RESISTANCE MEASUREMENTS	90	100	50	100	100	
G 411	G2-08 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE EMITTER - BASE JUNCTION	0	0	0	0	0	
G 412	G2-09 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE COLLECTOR - BASE JUNCTION	0	0	0	0	0	
G 413	G2-10 DO YOU USE OR REFER TO THE PHYSICAL SIZE OF THE TRANSISTOR STRUCTURE (COLLECTOR, BASE AND EMITTER)	50	63	0	0	67	
G 414	G2-11 DO YOU USE OR REFER TO LEAKAGE CURRENT (ICBO) IN A TRANSISTOR	40	50	0	0	50	
G 415	G2-12 DO YOU USE OR REFER TO TRANSISTOR SCHEMATIC SYMBOLS	100	100	100	100	100	
G 416	G2-13 DO YOU USE OR REFER TO TRANSISTOR NOTATION SUCH AS Q1, Q2, Q3, ETC	100	100	100	100	100	
G 417	G2-14 DO YOU USE OR REFER TO TRANSISTOR SUBSTITUTION INFORMATION	80	100	0	100	100	
G 418	G2-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE TRANSISTOR BASE CURRENT I_B IS NORMALLY SIGNIFICANTLY SMALLER THAN THE EMITTER CURRENT IE (USUALLY IB BEING 2 TO 8 PERCENT OF IE)	20	25	0	0	17	
G 419	G2-16 DO YOU USE THE INFORMATION THAT THE EFFECT OF EMITTER BASE VOLTAGE ON BASE CURRENT IS THE CONTROLLING FACTOR FOR TRANSISTORS	30	38	0	0	33	
G 420	G2-17 DO YOU USE THE GENERAL RULE THAT LEAKAGE CURRENT (ICBO) IN A TRANSISTOR INCREASES AS TEMPERATURE INCREASES	20	25	0	0	17	
G 421	G2-18 DO YOU USE OR REFER TO TRANSISTOR CHARACTERISTIC CURVES	30	38	0	0	33	
G 422	G2-19 DO YOU USE OR REFER TO BETA TRANSISTOR GAINS	20	13	50	0	0	
G 423	G2-20 DO YOU USE OR REFER TO ALPHA TRANSISTOR GAINS	20	13	50	0	0	
G 424	G2-21 DO YOU USE OR REFER TO GAMMA TRANSISTOR GAINS	10	13	0	0	0	
G 425	G2-22 DO YOU CALCULATE BETA TRANSISTOR GAINS	0	0	0	0	0	
G 426	G2-23 DO YOU CALCULATE ALPHA TRANSISTOR GAINS	0	0	0	0	0	
G 427	G2-24 DO YOU CALCULATE GAMMA TRANSISTOR GAINS	0	0	0	0	0	
G 428	G3-01 DO YOU WORK WITH TRANSISTOR AMPLIFIERS IN YOUR PRESENT JOB	60	88	50	100	83	TRANSISTOR AMPLIFIERS
G 429	G3-02 DO YOU INSPECT TRANSISTOR AMPLIFIERS	90	88	100	100	100	
G 430	G3-03 DO YOU ALIGN OR ADJUST TRANSISTOR AMPLIFIERS	100	100	100	100	100	
G 431	G3-04 DO YOU TROUBLESHOOT TO THE AMPLIFIER CIRCUIT LEVEL	100	100	100	100	100	
G 432	G3-05 DO YOU TROUBLESHOOT TO AMPLIFIER COMPONENTS	100	100	100	100	100	
G 433	G3-06 DO YOU REMOVE OR REPLACE THE COMPLETE AMPLIFIER	80	75	100	100	67	
G 434	G3-07 DO YOU REMOVE OR REPLACE AMPLIFIER COMPONENTS	100	100	100	100	100	
G 435	G3-08 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A CHANGE IN BASE CURRENT	40	50	0	100	50	
G 436	G3-09 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A SPECIFIC CHANGE IN BASE CURRENT	20	25	0	100	17	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031
G 437	G3-10 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A CHANGE IN BASE CURRENT	40	50	0	100	50
G 438	G3-11 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A SPECIFIC CHANGE IN BASE CURRENT	30	38	0	100	33
G 439	G3-12 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN BASE CURRENT WHICH RESULTS FROM AN INPUT SIGNAL	20	25	0	100	17
G 440	G3-13 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN BASE CURRENT WHICH RESULTS FROM A SPECIFIC INPUT SIGNAL	0	0	0	0	0
G 441	G3-14 DO YOU USE THE LOAD-LINE METHOD OF ANALYSIS IN YOUR CIRCUIT ANALYSIS (THIS METHOD REQUIRES YOU TO PLOT A LOAD-LINE ON A TRANSISTOR CHARACTERISTIC CURVE)	0	0	0	0	0
G 442	G3-15 DO YOU USE OR REFER TO THE OPERATING POINT (QUIESCENT POINT) FOR A TRANSISTOR	30	38	0	100	17
G 443	G3-16 DO YOU CALCULATE THE SPECIFIC QUIESCENT POINT FOR A PARTICULAR TRANSISTOR	0	0	0	0	0
G 444	G3-17 DO YOU MEASURE VOLTAGE GAIN USED IN THE COMMON EMITTER CONFIGURATION	70	75	50	100	67
G 445	G3-18 DO YOU MEASURE CURRENT GAIN USED IN THE COMMON EMITTER CONFIGURATION	40	38	50	100	17
G 446	G3-19 DO YOU MEASURE POWER GAIN USED IN THE COMMON EMITTER CONFIGURATION	30	25	50	100	0
G 447	G3-20 DO YOU CALCULATE THE VOLTAGE GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE IN BASE-EMITTER VOLTAGE INTO THE CHANGE THE BASE COLLECTOR VOLTAGE TO DETERMINE THE VOLTAGE GAIN	0	0	0	0	0
G 448	G3-21 DO YOU CALCULATE THE CURRENT GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE IN BASE CURRENT INTO THE CHANGE IN COLLECTOR CURRENT TO DETERMINE THE CURRENT GAIN	0	0	0	0	0
G 449	G3-22 DO YOU CALCULATE THE POWER GAIN FOR A SPECIFIC TRANSISTOR USING A FORMULA THAT IS, DO YOU MULTIPLY THE CURRENT GAIN TIMES THE VOLTAGE GAIN TO DETERMINE THE POWER GAIN	0	0	0	0	0
G 450	G3-23 DO YOU NEED TO KNOW THAT MORE COLLECTOR CURRENT IS GENERATED WITH LESS COLLECTOR VOLTAGE AS TEMPERATURE INCREASES (THIS AFFECTS THE STATIC OPERATING POINT [Q] OF THE TRANSISTOR)	0	0	0	0	0
G 451	G3-24 DO YOU COMPUTE THE STATIC OPERATING POINT [Q] OF A TRANSISTOR AT DIFFERENT TEMPERATURES	0	0	0	0	0
G 452	G3-25 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH EMITTER (SWAMPING) RESISTOR STABILIZATION	30	38	0	100	17
G 453	G3-26 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH SELF-BIAS STABILIZATION	30	38	0	100	17

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031
G 454	G3-27 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH THERMISTOR STABILIZATION	30	38	0	100	17
G 455	G3-28 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH FORWARD BIAS DIODE STABILIZATION	30	38	0	100	17
G 456	G3-29 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH REVERSE BIAS DIODE STABILIZATION	30	38	0	100	17
G 457	G3-30 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH DOUBLE DIODE STABILIZATION	30	38	0	100	17
G 458	G3-31 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM EMITTER (SWAMPING) RESISTOR STABILIZATION	40	50	0	100	33
G 459	G3-32 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM SELF-BIAS STABILIZATION	40	50	0	100	33
G 460	G3-33 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THERMISTOR STABILIZATION	40	50	0	100	33
G 461	G3-34 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM FORWARD BIAS DIODE STABILIZATION	40	50	0	100	33
G 462	G3-35 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM REVERSE BIAS DIODE STABILIZATION	40	50	0	100	33
G 463	G3-36 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM DOUBLE DIODE STABILIZATION	40	50	0	100	33
G 464	G3-37 DO YOU IDENTIFY AMPLITUDE DISTORTION FOR TRANSISTOR CIRCUITS	30	38	0	100	33
G 465	G3-38 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF AMPLITUDE DISTORTION	50	63	0	100	67
G 466	G3-39 DO YOU IDENTIFY FREQUENCY DISTORTION FOR TRANSISTOR CIRCUITS	40	50	0	100	50
G 467	G3-40 DO YOU IDENTIFY PHASE DISTORTION FOR TRANSISTOR CIRCUITS	10	13	0	100	0
G 468	G3-41 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF PHASE DISTORTION	10	13	0	100	0
G 469	G3-42 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF FREQUENCY DISTORTION	30	38	0	100	33
G 470	G3-43 DO YOU NEED TO KNOW THE DEGENERATIVE EFFECTS ON THE CIRCUIT CAUSED BY CHANGING EMITTER RESISTANCE FOR TRANSISTOR AMPLIFIERS IN THE COMMON COLLECTOR CONFIGURATION	10	13	0	100	0
G 471	G3-44 DO YOU DETERMINE THE CLASS OF OPERATION FOR AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	30	38	0	100	33
G 472	G3-45 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	30	38	0	100	17
G 473	G3-46 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	70	63	100	0	67
G 474	G3-47 DO YOU TROUBLESHOOT OR REPAIR COMPLEMENTARY SYMMETRY CIRCUITS	30	38	0	100	17
G 475	G3-48 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	30	38	0	100	17

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

			DY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
G	476	G3-49	DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	50	63	0	100	50	
H	477	H1-01	DO YOU USE OR REFER TO VARACTORS	10	13	0	0	17	
H	478	H1-02	DO YOU USE OR REFER TO TUNNEL DIODES	20	25	0	0	33	
H	479	H1-03	DO YOU USE OR REFER TO FIELD EFFECT TRANSISTORS (FET)	50	63	0	100	50	SOLID-STATE SPECIAL PURPOSE DEVICES
H	480	H1-04	DO YOU USE OR REFER TO UNIJUNCTION TRANSISTORS	40	50	0	0	50	
H	481	H1-05	DO YOU USE OR REFER TO ZENER DIODES	80	88	50	100	83	
H	482	H1-06	DO YOU USE OR REFER TO INTEGRATED CIRCUITS	80	88	50	0	100	
H	483	H2-01	IN YOUR PRESENT JOB, DO YOU WORK WITH POWER SUPPLIES	100	100	100	100	100	
H	484	H2-02	DO YOU INSPECT POWER SUPPLIES	90	88	100	100	100	
H	485	H2-03	DO YOU CLEAN POWER SUPPLIES	90	88	100	100	100	
H	486	H2-04	DO YOU ALIGN OR ADJUST POWER SUPPLIES	100	100	100	100	100	
H	487	H2-05	DO YOU TROUBLESHOOT TO POWER SUPPLY CIRCUIT LEVEL	100	100	100	100	100	POWER SUPPLIES
H	488	H2-06	DO YOU TROUBLESHOOT TO POWER SUPPLY COMPONENTS	100	100	100	100	100	
H	489	H2-07	DO YOU REMOVE OR REPLACE COMPLETE POWER SUPPLIES	100	100	100	100	100	
H	490	H2-08	DO YOU REMOVE OR REPLACE POWER SUPPLY COMPONENTS	100	100	100	100	100	
H	491	H2-09	DO YOU WORK WITH HALF-WAVE RECTIFIERS	100	100	100	100	100	
H	492	H2-10	DO YOU WORK WITH FULL-WAVE RECTIFIERS OTHER THAN BRIDGE RECTIFIERS	100	100	100	100	100	
H	493	H2-11	DO YOU WORK WITH BRIDGE RECTIFIERS	70	63	100	100	50	
H	494	H2-12	DO YOU WORK WITH THREE-PHASE RECTIFIERS	50	38	100	100	17	
H	495	H2-13	DO YOU USE OR REFER TO INPUT VOLTAGE	100	100	100	100	100	
H	496	H2-14	DO YOU USE OR REFER TO INPUT FREQUENCY	80	75	100	100	67	
H	497	H2-15	DO YOU USE OR REFER TO PEAK OUTPUT VOLTAGE	90	88	100	100	83	
H	498	H2-16	DO YOU USE OR REFER TO AVERAGE OUTPUT VOLTAGE	70	63	100	100	50	
H	499	H2-17	DO YOU USE OR REFER TO RIPPLE AMPLITUDE	60	63	50	100	50	
H	500	H2-18	DO YOU USE OR REFER TO RIPPLE FREQUENCY	50	50	50	100	33	
H	501	H2-19	DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE	40	38	50	0	33	
H	502	H2-20	DO YOU USE OR REFER TO SHAPE OF OUTPUT WAVEFORMS	70	63	100	100	50	
H	503	H2-21	DO YOU USE OR REFER TO EFFECTIVE OUTPUT VOLTAGE	100	100	100	100	100	
H	504	H2-22	DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE FILTERS	70	88	0	100	83	
H	505	H2-23	DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE FILTERS	50	63	0	100	50	
H	506	H2-24	DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE INPUT L-TYPE FILTERS	50	63	0	100	50	
H	507	H2-25	DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE INPUT L-TYPE FILTERS	50	63	0	100	50	
H	508	H2-26	DO YOU WORK WITH CIRCUITS WHICH EMPLOY LC PI-TYPE FILTERS	40	50	0	100	33	
H	509	H2-27	DO YOU WORK WITH CIRCUITS WHICH EMPLOY RC PI-TYPE FILTERS	40	50	0	100	33	
H	510	H2-28	DO YOU WORK WITH CIRCUITS WHICH EMPLOY DON'T REMEMBER WHICH TYPE OF FILTER	30	13	100	0	17	
H	511	H2-29	DO YOU HAVE THE OPTION OF REPLACING ONE TYPE OF FILTER WITH A DIFFERENT TYPE FILTER	0	0	0	0	0	
H	512	H3-01	DO YOU WORK WITH OSCILLATORS IN YOUR PRESENT JOB	30	25	50	100	17	OSCILLATORS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
M	513	M3-02 DO YOU INSPECT OSCILLATORS	50	50	50	100	50	
M	514	M3-03 DO YOU ALIGN OR ADJUST OSCILLATORS	40	50	0	100	50	
M	515	M3-04 DO YOU REMOVE OR REPLACE COMPLETE OSCILLATORS	40	50	0	100	50	
M	516	M3-05 DO YOU REMOVE OR REPLACE OSCILLATOR COMPONENTS	40	50	0	100	50	
M	517	M3-06 DO YOU TROUBLESHOOT TO OSCILLATOR CIRCUIT LEVEL	40	50	0	100	50	
M	518	M3-07 DO YOU TROUBLESHOOT TO OSCILLATOR COMPONENTS	40	50	0	100	50	
M	519	M3-08 DO YOU USE OR REFER TO FEEDBACK	30	38	0	100	33	
M	520	M3-09 DO YOU USE OR REFER TO FREQUENCY DETERMINING DEVICES (FDD)	30	38	0	100	33	
M	521	M3-10 DO YOU USE OR REFER TO AMPLITUDE STABILITY	40	50	0	100	50	
M	522	M3-11 DO YOU USE OR REFER TO FREQUENCY STABILITY	40	50	0	100	50	
M	523	M3-12 DO YOU USE OR REFER TO DAMPING	30	38	0	100	33	
M	524	M3-13 DO YOU USE OR REFER TO REGENERATIVE FEEDBACK	20	25	0	100	17	
M	525	M3-14 DO YOU USE OR REFER TO PIEZOELECTRIC EFFECT	10	13	0	0	17	
M	526	M3-15 DO YOU USE OR REFER TO CRITICAL DAMPING	0	0	0	0	0	
M	527	M3-16 DO YOU USE OR REFER TO UNDER DAMPING	30	38	0	100	33	
M	528	M3-17 DO YOU USE OR REFER TO OVER DAMPING	30	38	0	100	33	
M	529	M3-18 DO YOU WORK WITH OSCILLATORS WHICH USE LC TANK CIRCUITS AS FDD	40	50	0	100	50	
M	530	M3-19 DO YOU WORK WITH OSCILLATORS WHICH USE RC NETWORKS AS FDD	40	50	0	100	50	
M	531	M3-20 DO YOU WORK WITH OSCILLATORS WHICH USE CRYSTALS AS FDD	40	50	0	100	50	
M	532	M3-21 DO YOU WORK WITH OSCILLATORS WHICH USE DON'T REMEMBER WHICH TYPE OF FDD	20	13	50	0	17	
M	533	M3-22 DO YOU WORK WITH SERIES HARTLEY SINUSOIDAL OSCILLATORS	10	13	0	0	17	
M	534	M3-23 DO YOU WORK WITH SHUNT HARTLEY SINUSOIDAL OSCILLATORS	0	0	0	0	0	
M	535	M3-24 DO YOU WORK WITH COLPITTS SINUSOIDAL OSCILLATORS	10	13	0	0	17	
M	536	M3-25 DO YOU WORK WITH CLAPP SINUSOIDAL OSCILLATORS	0	0	0	0	0	
M	537	M3-26 DO YOU WORK WITH BUTLER SINUSOIDAL OSCILLATORS	0	0	0	0	0	
M	538	M3-27 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF OSCILLATORS	30	25	50	100	17	
I	539	I1-01 DO YOU WORK WITH MULTIVIBRATORS IN YOUR PRESENT JOB	40	38	50	100	33	MULTIVIBRATORS
I	540	I1-02 DO YOU INSPECT WAVE GENERATING OR SHAPING CIRCUITS	40	50	0	100	50	
I	541	I1-03 DO YOU ALIGN OR ADJUST WAVE GENERATING OR SHAPING CIRCUITS	30	38	0	0	50	
I	542	I1-04 DO YOU CALIBRATE WAVE GENERATING OR SHAPING CIRCUITS	30	38	0	0	50	
I	543	I1-05 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUITS	50	63	0	100	67	
I	544	I1-06 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUIT COMPONENTS	50	63	0	100	67	
I	545	I1-07 DO YOU REMOVE OR REPLACE COMPLETE WAVE GENERATING OR SHAPING CIRCUITS	50	63	0	100	67	
I	546	I1-08 DO YOU REMOVE OR REPLACE WAVE GENERATING OR SHAPING COMPONENTS	40	50	0	100	50	
I	547	I1-09 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN LC TANK CIRCUITS	20	25	0	0	33	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
I	548	11-10 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN RC NETWORKS	50	63	0	100	67	
I	549	11-11 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN CRYSTALS	40	38	50	100	33	
I	550	11-12 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN DON'T REMEMBER WHICH TYPE OF FDD	20	13	50	0	17	
I	551	11-13 DO YOU WORK WITH ASTABLE MULTIVIBRATORS	30	38	0	0	50	
I	552	11-14 DO YOU WORK WITH MONOSTABLE MULTIVIBRATORS	30	38	0	0	50	
I	553	11-15 DO YOU WORK WITH BISTABLE MULTIVIBRATORS	40	50	0	100	50	
I	554	11-16 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE MULTIVIBRATORS	10	0	50	0	0	
I	555	12-01 DO YOU WORK WITH LIMITERS OR CLAMPERS IN YOUR PRESENT JOB	60	63	50	100	67	
I	556	12-02 DO YOU WORK WITH SERIES DIODE LIMITERS	20	25	0	0	33	
I	557	12-03 DO YOU WORK WITH SHUNT DIODE LIMITERS	20	25	0	0	33	
I	558	12-04 DO YOU WORK WITH LIMITERS WITH BIAS	10	13	0	0	17	LIMITERS AND CLAMPERS
I	559	12-05 DO YOU WORK WITH ZENER DIODE LIMITERS	40	50	0	0	67	
I	560	12-06 DO YOU WORK WITH TRANSISTOR LIMITERS	20	25	0	0	33	
I	561	12-07 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF LIMITERS	10	0	50	0	0	
I	562	12-08 DO YOU WORK WITH BASIC DIODE CLAMPING CIRCUITS	10	13	0	0	17	
I	563	12-09 DO YOU WORK WITH DIODE CLAMPING CIRCUITS WITH BIAS	10	13	0	0	17	
I	564	12-10 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF CLAMPING CIRCUIT	10	0	50	0	0	
I	565	13-01 IN YOUR PRESENT JOB, DO YOU WORK ON EQUIPMENT WHICH CONTAINS ELECTRON TUBES	40	25	100	100	17	
I	566	13-02 DO YOU CHECK ELECTRON TUBES TO SEE IF THEY ARE GOOD	30	13	100	0	17	
I	567	13-03 DO YOU USE TUBE TESTERS TO CHECK ELECTRON TUBES	10	13	0	0	17	
I	568	13-04 DO YOU USE MULTIMETERS TO CHECK ELECTRON TUBES	10	13	0	0	17	
I	569	13-05 DO YOU USE SCOPES TO CHECK ELECTRON TUBES	10	13	0	0	17	ELECTRON TUBES
I	570	13-06 DO YOU USE SUBSTITUTION TO CHECK ELECTRON TUBES	40	25	100	100	17	
I	571	13-07 DO YOU USE OR REFER TO CUTOFF	10	13	0	0	17	
I	572	13-08 DO YOU USE OR REFER TO PEAK INVERSE VOLTAGE RATING	10	13	0	0	17	
I	573	13-09 DO YOU USE OR REFER TO PEAK CURRENT RATING	10	13	0	0	17	
I	574	13-10 DO YOU USE OR REFER TO TRANSIT TIME	0	0	0	0	0	
I	575	13-11 DO YOU USE OR REFER TO PLATE DISSIPATION RATING	0	0	0	0	0	
I	576	13-12 DO YOU USE OR REFER TO SATURATION	10	13	0	0	17	
I	577	13-13 DO YOU USE OR REFER TO DC PLATE RESISTANCE	0	0	0	0	0	
I	578	13-14 DO YOU COMPUTE ACTUAL VALUES OF THE DC PLATE RESISTANCE FOR ELECTRON TUBES	0	0	0	0	0	
I	579	13-15 DO YOU USE OR REFER TO PLATE VOLTAGE	10	13	0	0	17	
I	580	13-16 DO YOU USE OR REFER TO PLATE CURRENT	10	13	0	0	17	
I	581	13-17 DO YOU USE OR REFER TO GRID VOLTAGE	10	13	0	0	17	
I	582	13-18 DO YOU USE OR REFER TO GRID CURRENT	10	13	0	0	17	
I	583	13-19 DO YOU USE OR REFER TO CATHODE VOLTAGE	10	13	0	0	17	
I	584	13-20 DO YOU USE OR REFER TO CATHODE CURRENT	10	13	0	0	17	
I	585	13-21 DO YOU USE OR REFER TO THE TRIODE AMPLIFICATION FACTOR (THE AMPLIFICATION FACTOR FOR TRIODES IS DEFINED AS THE RATIO OF CHANGE IN PLATE VOLTAGE TO A CHANGE IN GRID VOLTAGE)	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031
I	586	J3-22 DO YOU CALCULATE ACTUAL VALUES OF TRIODE AMPLIFICATION FACTORS	0	0	0	0	0
I	587	J3-23 DO YOU USE OR REFER TO MULTIGRID (TETRODE, PENTODE, ETC) AMPLIFICATION FACTORS	0	0	0	0	0
I	588	J3-24 DO YOU USE OR REFER TO ELECTRON TUBE TRANSCONDUCTANCE (G, WHICH IS MEASURED IN MHOS)	0	0	0	0	0
I	589	J3-25 DO YOU CALCULATE ACTUAL VALUES OF ELECTRON TUBE TRANSCONDUCTANCES	0	0	0	0	0
I	590	J3-26 DO YOU USE OR REFER TO THE ELECTRON TUBE PARAMETER CALLED AC PLATE RESISTANCE	0	0	0	0	0
I	591	J3-27 DO YOU CALCULATE ACTUAL VALUES OF AC PLATE RESISTANCE	0	0	0	0	0
I	592	J3-28 DO YOU USE OR REFER TO ELECTRON TUBE INTERELECTRODE CAPACITANCE	0	0	0	0	0
I	593	J3-29 DO YOU USE OR REFER TO CHARACTERISTIC CURVES IN YOUR WORK WITH ELECTRON TUBES	0	0	0	0	0
I	594	J3-30 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE VOLTAGE FOR A SPECIFIED BIAS	0	0	0	0	0
I	595	J3-31 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE CURRENT FOR A SPECIFIED BIAS	0	0	0	0	0
I	596	J3-32 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR CUTOFF	0	0	0	0	0
I	597	J3-33 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR SATURATION	0	0	0	0	0
I	598	J3-34 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER GAIN	10	13	0	100	0
I	599	J3-35 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER EFFICIENCY	10	13	0	100	0
I	600	J3-36 DO YOU USE TEST TUBE CHECKERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	0	0	0	0	0
I	601	J3-37 DO YOU USE MULTIMETERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	0	0	0	0	0
I	602	J3-38 DO YOU USE OSCILLOSCOPES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	20	25	0	100	17
I	603	J3-39 DO YOU USE CHARACTERISTIC CURVES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	0	0	0	0	0
I	604	J3-40 DO YOU CALCULATE ANY ELECTRON TUBE CAPACITANCES SUCH AS INPUT CAPACITANCE	0	0	0	0	0
I	605	J3-41 DO YOU USE OR REFER TO TUBE SOCKET NOTATION	40	25	100	100	17
I	606	J3-42 DO YOU USE OR REFER TO PIN NUMBERING SYSTEMS	30	25	50	100	17
I	607	J3-43 DO YOU USE OR REFER TO THE TYPE OF MATERIAL OR THE OPERATING TEMPERATURE OF THE EMITTING SURFACE IN THE ELECTRON TUBES YOU WORK ON	0	0	0	0	0
I	608	J3-44 DO YOU USE OR REFER TO TUBE SUBSTITUTION MATERIAL SUCH AS MANUALS OR CHARTS	20	13	50	0	17
J	609	J1-01 DO YOU WORK WITH ELECTRON TUBE AMPLIFIERS OR CIRCUITS IN YOUR PRESENT JOB	10	13	0	0	17
J	610	J1-02 DO YOU DETERMINE THE CLASS OF OPERATION FOR ELECTRON TUBE AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	0	0	0	0	0

ELECTRON TUBE AMPLIFIERS
AND CIRCUITS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
J 611	J1-03 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	0	0	0	0	0	
J 612	J1-04 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	0	0	0	0	0	
J 613	J1-05 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	0	0	0	0	0	
J 614	J1-06 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	0	0	0	0	0	
J 615	J1-07 DO YOU TROUBLESHOOT OR REPAIR DON'T KNOW WHICH TYPE OF AMPLIFIER	0	0	0	0	0	
J 616	J2-01 DO YOU WORK WITH GAS TUBES (HOT CATHODE OR COLD CATHODE)	0	0	0	0	0	
J 617	J2-02 DO YOU WORK WITH CATHODE-RAY TUBES	10	13	0	0	17	
J 618	J2-03 DO YOU USE OR REFER TO THE CHARACTERISTICS OF BEAM POWER TUBES	0	0	0	0	0	SPECIAL PURPOSE ELECTRON TUBES
J 619	J2-04 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH BEAM POWER TUBES ARE USED	10	13	0	0	17	
J 620	J2-05 DO YOU USE OR REFER TO THE CHARACTERISTICS OF THYRATRONS	0	0	0	0	0	
J 621	J2-06 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH THYRATRONS ARE USED	0	0	0	0	0	
J 622	J2-07 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTRON GUNS OF CATHODE-RAY TUBES (CRT)	20	25	0	0	33	
J 623	J2-08 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROMAGNETIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (CRT)	20	25	0	0	33	
J 624	J2-09 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROSTATIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (CRT)	20	25	0	0	33	
J 625	J2-10 DO YOU USE OR REFER TO PHOSPHOR SCREENS	20	25	0	0	33	
J 626	J2-11 DO YOU USE OR REFER TO AQUADAG COATINGS	0	0	0	0	0	
J 627	J2-12 DO YOU USE OR REFER TO ELECTRON OPTICS	0	0	0	0	0	
J 628	J2-13 DO YOU USE OR REFER TO PERSISTENCE	10	13	0	0	17	
J 629	J2-14 DO YOU USE OR REFER TO DECAY TIMES	10	13	0	0	17	
J 630	J2-15 DO YOU USE OR REFER TO FLUORESCENCE	0	0	0	0	0	
J 631	J2-16 DO YOU USE OR REFER TO PHOSPHORESCENCE	20	25	0	0	33	
J 632	J3-01 DO YOU WORK ON TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	30	25	50	100	17	
J 633	J3-02 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	30	25	50	100	17	
J 634	J3-03 DO YOU PERFORM TASKS ON FREQUENCY MIXERS	10	13	0	100	0	HETERODYNING, MODULATION, AND DEMODULATION
J 635	J3-04 DO YOU USE OR REFER TO THE HETERODYNING OF SIGNALS IN YOUR WORK WITH TRANSMIT OR RECEIVE SYSTEMS	20	25	0	100	17	
J 636	J3-05 DO YOU PERFORM TASKS ON REACTANCE MODULATORS	10	13	0	0	17	
J 637	J3-06 DO YOU PERFORM TASKS ON MODULATED OSCILLATORS	20	25	0	100	17	
K 638	K1-01 DO YOU WORK ON AM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	10	13	0	0	17	
K 639	K1-02 DO YOU INSPECT AM TRANSMIT OR RECEIVE SYSTEMS	10	13	0	0	17	
K 640	K1-03 DO YOU CLEAN AM TRANSMIT OR RECEIVE SYSTEMS	10	13	0	0	17	
K 641	K1-04 DO YOU ALIGN OR ADJUST AM TRANSMIT OR RECEIVE SYSTEMS	10	13	0	0	17	AM SYSTEMS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
K	642	K1-05 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE SYSTEMS	10	13	0	0	17	
K	643	K1-06 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE COMPONENTS	10	13	0	0	17	
K	644	K1-07 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE SYSTEMS	10	13	0	0	17	
K	645	K1-08 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE COMPONENTS	10	13	0	0	17	
K	646	K1-09 DO YOU PERFORM TASKS ON RF OSCILLATORS	10	13	0	0	17	
K	647	K1-10 DO YOU PERFORM TASKS ON RF AMPLIFIERS	10	13	0	0	17	
K	648	K1-11 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	10	13	0	0	17	
K	649	K1-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	10	13	0	0	17	
K	650	K1-13 DO YOU PERFORM TASKS ON LOCAL OSCILLATORS	10	13	0	0	17	
K	651	K1-14 DO YOU PERFORM TASKS ON IF AMPLIFIERS	10	13	0	0	17	
K	652	K1-15 DO YOU PERFORM TASKS ON DETECTORS	10	13	0	0	17	
K	653	K1-16 DO YOU PERFORM TASKS ON DON'T REMEMBER WHICH AM STAGE	0	0	0	0	0	
K	654	K1-17 DO YOU USE OR REFER TO AMPLITUDE STABILIZATION IN TRANSMITTERS	0	0	0	0	0	
K	655	K1-18 DO YOU USE OR REFER TO FREQUENCY STABILIZATION IN TRANSMITTERS	10	13	0	0	17	
K	656	K1-19 DO YOU USE OR REFER TO SENSITIVITY OF RECEIVERS	10	13	0	0	17	
K	657	K1-20 DO YOU USE OR REFER TO SELECTIVITY OF RECEIVERS	10	13	0	0	17	
K	658	K1-21 DO YOU USE OR REFER TO 2ND HARMONIC DISTORTION	0	0	0	0	0	
K	659	K1-22 DO YOU USE OR REFER TO BANDPASS DISTORTION	10	13	0	0	17	
K	660	K1-23 DO YOU USE OR REFER TO SQUARE LAW DISTORTION	0	0	0	0	0	
K	661	K1-24 DO YOU USE OR REFER TO CO-CHANNEL INTERFERENCE	0	0	0	0	0	
K	662	K1-25 DO YOU USE OR REFER TO IMAGE FREQUENCIES IN RECEIVERS	0	0	0	0	0	
K	663	K1-26 DO YOU USE OR REFER TO SIGNAL TO IMAGE RATIOS OR IMAGE REJECTION RATIOS	0	0	0	0	0	
K	664	K1-27 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM TRANSMITTER SCHEMATIC DIAGRAMS	10	13	0	0	17	
K	665	K1-28 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM RECEIVER SCHEMATIC DIAGRAMS	10	13	0	0	17	
K	666	K2-01 DO YOU WORK WITH FM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	20	25	0	100	17	
K	667	K2-02 DO YOU INSPECT FM TRANSMIT OR RECEIVE SYSTEMS	20	25	0	100	17	
K	668	K2-03 DO YOU CLEAN FM TRANSMIT OR RECEIVE SYSTEMS	20	25	0	100	17	FM SYSTEMS
K	669	K2-04 DO YOU ALIGN FM TRANSMIT OR RECEIVE SYSTEMS	20	25	0	100	17	
K	670	K2-05 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE SYSTEMS	20	25	0	100	17	
K	671	K2-06 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE COMPONENTS	20	25	0	100	17	
K	672	K2-07 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE SYSTEMS	20	25	0	100	17	
K	673	K2-08 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE COMPONENTS	20	25	0	100	17	
K	674	K2-09 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	10	13	0	0	17	
K	675	K2-10 DO YOU PERFORM TASKS ON FREQUENCY MULTIPLIERS	20	25	0	100	17	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
K 676	K2-11 DO YOU PERFORM TASKS ON DRIVERS (INTERMEDIATE AMPLIFIERS)	20	25	0	100	17	
K 677	K2-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	20	25	0	100	17	
K 678	K2-13 DO YOU PERFORM TASKS ON RF AMPLIFIERS	20	25	0	100	17	
K 679	K2-14 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	20	25	0	100	17	
K 680	K2-15 DO YOU PERFORM TASKS ON IF AMPLIFIERS	20	25	0	100	17	
K 681	K2-16 DO YOU PERFORM TASKS ON LIMITERS	20	25	0	100	17	
K 682	K2-17 DO YOU PERFORM TASKS ON FREQUENCY DISCRIMINATORS	20	25	0	100	17	
K 683	K2-18 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM TRANSMITTERS	20	25	0	100	17	
K 684	K2-19 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM RECEIVERS	20	25	0	100	17	
K 685	K3-01 DO YOU CONVERT DECIMAL (BASE 10) NUMBERS TO OCTAL (BASE 8) NUMBERS	40	50	0	100	50	
K 686	K3-02 DO YOU CONVERT DECIMAL NUMBERS TO BINARY (BASE 2) NUMBERS	50	38	100	0	50	
K 687	K3-03 DO YOU CONVERT OCTAL NUMBERS TO DECIMAL NUMBERS	30	38	0	0	50	NUMBERING SYSTEMS
K 688	K3-04 DO YOU CONVERT OCTAL NUMBERS TO BINARY NUMBERS	20	25	0	0	33	
K 689	K3-05 DO YOU CONVERT BINARY NUMBERS TO DECIMAL NUMBERS	50	38	100	0	50	
K 690	K3-06 DO YOU CONVERT BINARY NUMBERS TO OCTAL NUMBERS	30	38	0	0	50	
K 691	K3-07 DO YOU ADD BINARY NUMBERS TO GET A SUM	30	25	50	0	33	
K 692	K3-08 DO YOU SUBTRACT BINARY NUMBERS USING THE END-AROUND-CARRY METHOD	30	25	50	0	33	
K 693	K3-09 DO YOU SUBTRACT BINARY NUMBERS USING THE DIRECT SUBTRACTION METHOD	20	13	50	0	17	
K 694	K3-10 DO YOU ADD OCTAL NUMBERS TO GET A SUM	10	13	0	0	17	
L 695	L1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO LOGIC FUNCTIONS	50	38	100	0	50	
L 696	L1-02 DO YOU CONSTRUCT TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	30	13	100	0	17	
L 697	L1-03 DO YOU CONSTRUCT TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	30	13	100	0	17	LOGIC FUNCTIONS
L 698	L1-04 DO YOU CONSTRUCT TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS	30	13	100	0	17	
L 699	L1-05 DO YOU CONSTRUCT TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS OR GATES	30	13	100	0	17	
L 700	L1-06 DO YOU USE OR REFER TO TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	50	38	100	0	50	
L 701	L1-07 DO YOU USE OR REFER TO TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	50	38	100	0	50	
L 702	L1-08 DO YOU USE OR REFER TO TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS	40	25	100	0	33	
L 703	L1-09 DO YOU USE OR REFER TO TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS	50	38	100	0	50	
L 704	L1-10 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR AND GATES	50	38	100	0	50	
L 705	L1-11 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR OR GATES	50	38	100	0	50	
L 706	L1-12 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR NAND OR NOR GATES	50	38	100	0	50	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
L 707	L1-13 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR EXCLUSIVE OR GATES	50	38	100	0	50	
L 708	L2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO BOOLEAN EQUATIONS, LOGIC DIAGRAMS, OR LOGIC CIRCUITS	30	38	0	0	50	
L 709	L2-02 DO YOU DRAW LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUITS	20	25	0	0	33	BOOLEAN EQUATIONS
L 710	L2-03 DO YOU CONSTRUCT TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	0	0	0	0	0	
L 711	L2-04 DO YOU DRAW LOGIC DIAGRAMS FROM GIVEN BOOLEAN EQUATIONS	0	0	0	0	0	
L 712	L2-05 DO YOU MEASURE INPUTS OR OUTPUTS OF LOGIC GATES	30	38	0	0	50	
L 713	L2-06 DO YOU DEVELOP OR ANALYZE BOOLEAN EQUATIONS IN THE PROCESS OF TROUBLESHOOTING DIGITAL CIRCUITS	0	0	0	0	0	
L 714	L2-07 DO YOU ANALYZE LOGIC CIRCUITS BY USING BOOLEAN ALGEBRA	0	0	0	0	0	
L 715	L2-08 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUIT GATES	20	25	0	0	33	
L 716	L2-09 DO YOU USE OR REFER TO TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	0	0	0	0	0	
L 717	L2-10 DO YOU USE OR REFER TO LOGIC DIAGRAMS CONSISTING OF MORE THAN ONE GATE	30	38	0	0	50	
L 718	L2-11 DO YOU COMPUTE SUM AND CARRY EXPRESSIONS FOR SERIAL HALF OR FULL ADDER LOGIC DIAGRAMS	10	13	0	0	17	
L 719	L2-12 DO YOU TRACE DATA FLOW THROUGH PARALLEL FULL ADDER LOGIC DIAGRAMS	10	13	0	0	17	
L 720	L2-13 DO YOU WORK WITH ASTABLE (FREE RUNNING) MULTIVIBRATORS	30	38	0	0	50	
L 721	L2-14 DO YOU WORK WITH BISTABLE (FLIP-FLOP) MULTIVIBRATORS	30	38	0	0	50	
L 722	L2-15 DO YOU WORK WITH MONOSTABLE (ONE-SHOT) MULTIVIBRATORS	30	38	0	0	50	
L 723	L2-16 DO YOU USE OR REFER TO FLIP-FLOP MULTIVIBRATOR SYMBOLS	30	38	0	0	50	
L 724	L2-17 DO YOU USE OR REFER TO SINGLE-SHOT MULTIVIBRATOR SYMBOLS	30	38	0	0	50	
L 725	L2-18 DO YOU USE OR REFER TO FLIP-FLOP CIRCUIT DIAGRAMS	30	38	0	0	50	
L 726	L2-19 DO YOU USE OR REFER TO FLIP-FLOP TRUTH TABLES	30	38	0	0	50	
L 727	L2-20 DO YOU USE OR REFER TO COMPLEMENTED FLIP-FLOP LOGIC SYMBOLS	20	25	0	0	33	
L 728	L2-21 DO YOU USE OR REFER TO COMPLEMENTING FLIP-FLOP LOGIC SYMBOLS	20	25	0	0	33	
L 729	L2-22 DO YOU MEASURE OUTPUT WAVESHAPES OF LOGIC CIRCUITS	30	38	0	0	50	
L 730	L2-23 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTED FLIP-FLOP SCHEMATIC DIAGRAMS	20	25	0	0	33	
L 731	L2-24 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTING FLIP-FLOP SCHEMATIC DIAGRAMS	20	25	0	0	33	
L 732	L2-25 DO YOU CONSTRUCT TRUTH TABLES FOR J-K FLIP-FLOP LOGIC SYMBOLS	10	13	0	0	17	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TS=	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
L 733	L3-01	DO YOU WORK WITH DIGITAL COUNTERS IN YOUR PRESENT JOB	70	75	50	100	83	
L 734	L3-02	DO YOU USE OR REFER TO UP-COUNTERS	50	38	100	0	50	COUNTERS
L 735	L3-03	DO YOU USE OR REFER TO DOWN-COUNTERS	50	38	100	0	50	
L 736	L3-04	DO YOU USE OR REFER TO SERIAL COUNTERS	60	50	100	100	50	
L 737	L3-05	DO YOU USE OR REFER TO PARALLEL COUNTERS	40	38	50	0	50	
L 738	L3-06	DO YOU USE OR REFER TO RING COUNTERS	10	0	50	0	0	
L 739	L3-07	DO YOU USE OR REFER TO DECADE COUNTERS	70	63	100	0	83	
L 740	L3-08	DO YOU USE OR REFER TO COUNT DETECT CIRCUITS	40	38	50	100	33	
L 741	L3-09	DO YOU USE OR REFER TO DOWN CLOCKS	40	38	50	0	50	
L 742	L3-10	DO YOU USE OR REFER TO UP CLOCKS	40	38	50	0	50	
L 743	L3-11	DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	20	25	0	0	33	
L 744	L3-12	DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS	20	25	0	0	33	
L 745	L3-13	DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF DECADE COUNTERS	50	63	0	0	83	
L 746	L3-14	DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF RING COUNTERS	0	0	0	0	0	
L 747	L3-15	DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTER	40	50	0	100	50	
L 748	L3-16	DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	30	38	0	0	50	
L 749	L3-17	DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF COUNTERS	40	50	0	100	50	
L 750	L3-18	DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	20	25	0	0	33	
L 751	L3-19	DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS	20	25	0	0	33	
L 752	L3-20	DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTERS	20	25	0	0	33	
L 753	L3-21	DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR OTHER TYPES OF COUNTERS	30	38	0	100	33	
L 754	L3-22	DO YOU CONSTRUCT TRUTH TABLES FROM LOGIC DIAGRAMS OF DECADE COUNTERS	0	0	0	0	0	
L 755	L3-23	DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP IN RING COUNTERS FOR SPECIFIC INPUT PULSES	0	0	0	0	0	
L 756	L3-24	DO YOU DETERMINE THE APPROPRIATE AND GATE NECESSARY IN COUNT DETECT CIRCUITS TO INDICATE A REQUIRED COUNT	10	13	0	0	17	
M 757	M1-01	DO YOU WORK WITH SAWTOOTH WAVE GENERATORS	40	38	50	0	50	
M 758	M1-02	DO YOU WORK WITH TRAPEZOIDAL WAVE GENERATORS	10	13	0	0	17	
M 759	M1-03	DO YOU WORK WITH PULSED OSCILLATORS WITH REGENERATIVE FEEDBACK	40	25	100	0	33	TIMING CIRCUITS
M 760	M1-04	DO YOU WORK WITH PULSED OSCILLATORS WITHOUT REGENERATIVE FEEDBACK	30	38	0	100	33	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
M 761	M1-05 DO YOU WORK WITH BLOCKING OSCILLATORS	10	13	0	0	17	
M 762	M1-06 DO YOU USE OR REFER TO RISE TIME	50	50	50	100	50	
M 763	M1-07 DO YOU USE OR REFER TO FALL OR FLYBACK TIME	30	38	0	0	50	
M 764	M1-08 DO YOU USE OR REFER TO SWEEP TIME	50	50	50	100	50	
M 765	M1-09 DO YOU USE OR REFER TO ELECTRICAL LENGTH OF SAWTOOTH WAVEFORMS	30	25	50	100	17	
M 766	M1-10 DO YOU USE OR REFER TO PHYSICAL LENGTH OF SAWTOOTH WAVEFORMS	20	25	0	100	17	
M 767	M1-11 DO YOU USE OR REFER TO LINEAR SLOPE OF SAWTOOTH WAVEFORMS	30	38	0	100	33	
M 768	M1-12 DO YOU USE OR REFER TO GATE LENGTH OF SAWTOOTH WAVEFORMS	40	50	0	100	50	
M 769	M2-01 DO YOU USE SIGNAL GENERATORS IN YOUR PRESENT JOB	90	88	100	100	100	
M 770	M2-02 DO YOU PERFORM OPERATIONAL CHECKS WHILE USING SIGNAL GENERATORS	90	88	100	100	100	
M 771	M2-03 DO YOU PERFORM PERIODIC MAINTENANCE SUCH AS ADJUSTING, ALIGNING, OR CALIBRATING WHILE USING SIGNAL GENERATORS	80	75	100	0	100	USE OF SIGNAL GENERATORS
M 772	M2-04 DO YOU TROUBLESHOOT TO AN ASSEMBLY OR SUBASSEMBLY WHILE USING SIGNAL GENERATORS	80	75	100	0	100	
M 773	M2-05 DO YOU TROUBLESHOOT TO THE SMALLEST REPLACEABLE COMPONENT WHILE USING SIGNAL GENERATORS	80	75	100	0	100	
M 774	M2-06 DO YOU USE AUDIO SINE-WAVE GENERATORS	30	38	0	100	33	
M 775	M2-07 DO YOU USE AUDIO NON-SINUSOIDAL WAVE GENERATORS SUCH AS SQUARE WAVE, TRIANGLE, PULSE, OR SPIKE	90	88	100	100	100	
M 776	M2-08 DO YOU USE RF GENERATORS LESS THAN 1,000 MH	30	38	0	100	33	
M 777	M2-09 DO YOU USE RF GENERATORS GREATER THAN 1,000 MH	30	38	0	100	33	
M 778	M2-10 DO YOU USE OTHER SPECIAL PURPOSE OR MULTI-FUNCTION GENERATORS	40	38	50	0	50	
M 779	M3-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH ALTERNATING CURRENT OR DIRECT CURRENT MOTORS OR GENERATORS	80	75	100	0	100	
M 780	M3-02 DO YOU INSPECT MOTORS	70	63	100	0	83	
M 781	M3-03 DO YOU CLEAN OR LUBRICATE MOTORS	60	50	100	0	67	MOTORS AND GENERATORS
M 782	M3-04 DO YOU OPERATE MOTORS	80	75	100	0	100	
M 783	M3-05 DO YOU REMOVE OR REPLACE COMPLETE MOTORS	80	75	100	0	100	
M 784	M3-06 DO YOU REMOVE OR REPLACE MOTOR PARTS	40	50	0	0	67	
M 785	M3-07 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF MOTORS	70	75	50	0	100	
M 786	M3-08 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF MOTORS	40	50	0	0	67	
M 787	M3-09 DO YOU PERFORM ANY TASKS ON FIELD COILS	20	25	0	0	33	
M 788	M3-10 DO YOU PERFORM ANY TASKS ON ARMATURES	40	50	0	0	67	
M 789	M3-11 DO YOU PERFORM ANY TASKS ON MOTORS	20	25	0	0	33	
M 790	M3-12 DO YOU PERFORM ANY TASKS ON BRUSHES	50	63	0	0	83	
M 791	M3-13 DO YOU PERFORM ANY TASKS ON SLIP RINGS	10	13	0	0	17	
M 792	M3-14 DO YOU PERFORM ANY TASKS ON COMMUTATORS	40	50	0	0	67	
M 793	M3-15 DO YOU PERFORM ANY TASKS ON POLE PIECES	10	13	0	0	17	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
M 794	M3-16 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OF THE FORCE OR TORQUE CREATED BY A MOTOR	0	0	0	0	0	
M 795	M3-17 DO YOU DETERMINE OR MEASURE THE DIRECTION OF THE MECHANICAL FORCE OR TORQUE CREATED BY A MOTOR	40	50	0	0	67	
M 796	M3-18 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OR DIRECTION OF THE INDUCED VOLTAGE IN MOTORS	0	0	0	0	0	
M 797	M3-19 DO YOU WORK WITH SYNCHRONOUS MOTORS	50	63	0	0	83	
M 798	M3-20 DO YOU WORK WITH INDUCTION MOTORS	20	25	0	0	33	
M 799	M3-21 DO YOU WORK WITH SPLIT-PHASE MOTORS	40	50	0	0	67	
M 800	M3-22 DO YOU WORK WITH SOME COMBINATION OF THE ABOVE MOTORS	50	38	100	0	50	
M 801	M3-23 DO YOU INSPECT GENERATORS	30	13	100	0	17	
M 802	M3-24 DO YOU CLEAN OR LUBRICATE GENERATORS	20	13	50	0	17	
M 803	M3-25 DO YOU OPERATE GENERATORS	40	25	100	0	33	
M 804	M3-26 DO YOU REMOVE OR REPLACE COMPLETE GENERATORS	10	13	0	0	17	
M 805	M3-27 DO YOU REMOVE OR REPLACE GENERATOR PARTS	10	13	0	0	17	
M 806	M3-28 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF GENERATORS	20	13	50	0	17	
M 807	M3-29 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF GENERATORS	0	0	0	0	0	
N 808	N1-01 DO YOU WORK WITH METERS IN YOUR PRESENT JOB	80	75	100	0	100	
N 809	N1-02 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF PERMANENT MAGNETS	40	38	50	0	50	
N 810	N1-03 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF MOVING COILS	30	38	0	0	50	METER MOVEMENTS
N 811	N1-04 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF SPIRAL SPRINGS	30	38	0	0	50	
N 812	N1-05 DO YOU READ METER SCALES	70	63	100	0	83	
N 813	N1-06 DO YOU EXTEND THE RANGE OF AMMETERS	20	25	0	0	33	
N 814	N1-07 DO YOU ZERO OHMMETERS	80	75	100	0	100	
N 815	N1-08 DO YOU ZERO AMMETERS	20	25	0	0	33	
N 816	N1-09 DO YOU EXTEND THE RANGE OF VOLTMETERS	20	25	0	0	33	
N 817	N1-10 DO YOU USE OR REFER TO VOLTMETER SENSITIVITY (EXPRESSED IN UNITS OF OHMS PER VOLT)	50	63	0	0	83	
N 818	N2-01 DO YOU WORK WITH SATURABLE REACTORS OR MAGNETIC AMPLIFIERS IN YOUR PRESENT JOB	0	0	0	0	0	
N 819	N2-02 DO YOU INSPECT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	0	0	0	
N 820	N2-03 DO YOU CLEAN MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	0	0	0	SATURABLE REACTORS AND MAGNETIC AMPLIFIERS
N 821	N2-04 DO YOU ADJUST MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	0	0	0	
N 822	N2-05 DO YOU TROUBLESHOOT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	0	0	0	
N 823	N2-06 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	0	0	0	
N 824	N2-07 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIER OR SATURABLE REACTOR COMPONENTS	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
N	825	N2-08 DO YOU USE OR REFER TO HYSTERESIS CURVES OR LOOPS	0	0	0	0	0	
N	826	N2-09 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF SINGLE WINDING SATURABLE REACTORS	0	0	0	0	0	
N	827	N2-10 DO YOU MEASURE OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF SINGLE WINDING SATURABLE REACTORS	0	0	0	0	0	
N	828	N2-11 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS FOR MAGNETIC AMPLIFIERS	0	0	0	0	0	
N	829	N2-12 DO YOU USE OR REFER TO COERCIVE FORCE IN SATURABLE REACTORS	0	0	0	0	0	
N	830	N2-13 DO YOU USE OR REFER TO RESIDUAL MAGNETISM IN SATURABLE REACTORS	0	0	0	0	0	
N	831	N2-14 DO YOU USE OR REFER TO FLUX DENSITY IN SATURABLE REACTORS	0	0	0	0	0	
N	832	N2-15 DO YOU USE OR REFER TO POINT OF SATURATION IN SATURABLE REACTORS	0	0	0	0	0	
N	833	N2-16 DO YOU USE OR REFER TO SATURABLE REACTOR SCHEMATIC SYMBOLS	0	0	0	0	0	
N	834	N3-01 DO YOU WORK WITH WAVESHAPING CIRCUITS IN YOUR PRESENT JOB	60	63	50	100	67	
N	835	N3-02 DO YOU USE OR REFER TO TRANSIENT INTERVALS	20	25	0	0	33	
N	836	N3-03 DO YOU USE OR REFER TO PULSE WIDTH (PW)	70	75	50	100	83	
N	837	N3-04 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	50	50	50	100	50	WAVESHAPING CIRCUITS
N	838	N3-05 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	50	50	50	100	50	
N	839	N3-06 DO YOU USE OR REFER TO DIFFERENTIATING CIRCUITS	40	50	0	0	67	
N	840	N3-07 DO YOU USE OR REFER TO INTEGRATING CIRCUITS	40	50	0	0	67	
N	841	N3-08 DO YOU USE OR REFER TO THE CLASSIFICATION OF TIME CONSTANTS (TC) AS LONG, MEDIUM, OR SHORT	50	63	0	100	67	
N	842	N3-09 DO YOU DETERMINE WHETHER AN LR OR RC CIRCUIT IS DIFFERENTIATING OR INTEGRATING BASED ON THE TIME CONSTANT AND OUTPUT CONFIGURATION	0	0	0	0	0	
N	843	N3-10 DO YOU WORK WITH SQUARE WAVE GENERATORS	50	50	50	100	50	
N	844	N3-11 DO YOU WORK WITH RECTANGULAR WAVE GENERATORS	50	50	50	100	50	
O	845	O1-01 DO YOU WORK ON SINGLE SIDEBAND SYSTEMS IN YOUR PRESENT JOB	0	0	0	0	0	
O	846	O1-02 DO YOU INSPECT SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	
O	847	O1-03 DO YOU CLEAN SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	
O	848	O1-04 DO YOU ALIGN SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	
O	849	O1-05 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	SINGLE SIDEBAND SYSTEMS
O	850	O1-06 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE COMPONENTS	0	0	0	0	0	
O	851	O1-07 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	
O	852	O1-08 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE COMPONENTS	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
0 853	01-09 DO YOU PERFORM TASKS ON SSB AUDIO AMPLIFIERS	0	0	0	0	0	
0 854	01-10 DO YOU PERFORM TASKS ON SSB BALANCED MODULATORS	0	0	0	0	0	
0 855	01-11 DO YOU PERFORM TASKS ON SSB CARRIER OSCILLATORS	0	0	0	0	0	
0 856	01-12 DO YOU PERFORM TASKS ON SSB LC FILTERS	0	0	0	0	0	
0 857	01-13 DO YOU PERFORM TASKS ON SSB CRYSTAL FILTERS	0	0	0	0	0	
0 858	01-14 DO YOU PERFORM TASKS ON SSB MECHANICAL FILTERS	0	0	0	0	0	
0 859	01-15 DO YOU PERFORM TASKS ON SSB OSCILLATORS	0	0	0	0	0	
0 860	01-16 DO YOU PERFORM TASKS ON SSB MIXERS	0	0	0	0	0	
0 861	01-17 DO YOU PERFORM TASKS ON SSB DRIVERS	0	0	0	0	0	
0 862	01-18 DO YOU PERFORM TASKS ON SSB POWER AMPLIFIERS	0	0	0	0	0	
0 863	01-19 DO YOU PERFORM TASKS ON SSB RF AMPLIFIERS	0	0	0	0	0	
0 864	01-20 DO YOU PERFORM TASKS ON SSB FREQUENCY CONVERTERS	0	0	0	0	0	
0 865	01-21 DO YOU PERFORM TASKS ON SSB IF AMPLIFIERS	0	0	0	0	0	
0 866	01-22 DO YOU PERFORM TASKS ON SSB DEMODULATORS	0	0	0	0	0	
0 867	01-23 DO YOU PERFORM TASKS ON SSB DON'T REMEMBER WHICH SSB SYSTEM STAGES	0	0	0	0	0	
0 868	01-24 DO YOU USE OR REFER TO SELECTIVE FADING	0	0	0	0	0	
0 869	01-25 DO YOU USE OR REFER TO PEAK POWER	0	0	0	0	0	
0 870	01-26 DO YOU USE OR REFER TO FREQUENCY STABILITY	0	0	0	0	0	
0 871	01-27 DO YOU USE OR REFER TO RESPONSE CURVES FOR BANDWIDTH FILTERS	0	0	0	0	0	
0 872	01-28 DO YOU CALCULATE PEAK POWER OR EFFECTIVE POWER OF SSB TRANSMITTERS	0	0	0	0	0	
0 873	01-29 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB TRANSMITTER SCHEMATIC DIAGRAMS	0	0	0	0	0	
0 874	01-30 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB RECEIVER SCHEMATIC DIAGRAMS	0	0	0	0	0	
0 875	02-01 DO YOU WORK ON PULSE MODULATION SYSTEMS IN YOUR PRESENT JOB	30	25	50	100	17	
0 87A	02-02 DO YOU INSPECT PULSE MODULATION SYSTEMS	30	25	50	100	17	
0 877	02-03 DO YOU CLEAN PULSE MODULATION SYSTEMS	20	13	50	100	0	
0 878	02-04 DO YOU ALIGN PULSE MODULATION SYSTEMS	30	25	50	100	17	
0 879	02-05 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEMS	30	25	50	100	17	PULSE MODULATION SYSTEMS
0 880	02-06 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEM COMPONENTS	20	25	0	100	17	
0 881	02-07 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEMS	20	25	0	100	17	
0 882	02-08 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEM COMPONENTS	20	25	0	100	17	
0 883	02-09 DO YOU WORK ON PULSE-AMPLITUDE MODULATION (PAM) SYSTEMS	10	13	0	100	0	
0 884	02-10 DO YOU WORK ON PULSE-DURATION MODULATION (PDM) SYSTEMS	10	13	0	100	0	
0 885	02-11 DO YOU WORK ON PULSE-POSITION MODULATION (PPM) SYSTEMS	10	13	0	100	0	
0 886	02-12 DO YOU WORK ON PULSE-CODE MODULATION (PCM) SYSTEMS	10	13	0	100	0	
0 887	02-13 DO YOU WORK ON LINE PULSING MODULATION SYSTEMS	10	13	0	100	0	
0 888	02-14 DO YOU WORK ON DON'T REMEMBER WHICH TYPE OF MODULATION SYSTEM	10	0	50	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031
0	889	02-15 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER SUPPLIES	10	13	0	100	0
0	890	02-16 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM CHARGING CHOKES AND CHARGING DIODES	10	13	0	100	0
0	891	02-17 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE FORMING NETWORKS	10	13	0	100	0
0	892	02-18 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TIMERS	10	13	0	100	0
0	893	02-19 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM SWITCHES SUCH AS GAS THYRATRONS	0	0	0	0	0
0	894	02-20 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE TRANSFORMERS	10	13	0	100	0
0	895	02-21 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TRANSMITTER TUBES	10	13	0	100	0
0	896	02-22 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM RF AMPLIFIERS	10	13	0	100	0
0	897	02-23 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM FREQUENCY CONVERTERS	10	13	0	100	0
0	898	02-24 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM IF AMPLIFIERS	10	13	0	100	0
0	899	02-25 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DETECTORS	10	13	0	100	0
0	900	02-26 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM VIDEO AMPLIFIERS	10	13	0	100	0
0	901	02-27 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER VIDEO AMPLIFIERS	10	13	0	100	0
0	902	02-28 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DON'T REMEMBER WHICH PULSE MODULATION SYSTEM STAGES	10	0	50	0	0
0	903	02-29 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	20	25	0	100	17
0	904	02-30 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	20	25	0	100	17
0	905	02-31 DO YOU USE OR REFER TO PULSE WIDTH (PW)	30	25	50	100	17
0	906	02-32 DO YOU USE OR REFER TO PULSE SHAPE	30	25	50	100	17
0	907	02-33 DO YOU USE OR REFER TO PEAK POWER	30	25	50	100	17
0	908	02-34 DO YOU USE OR REFER TO AVERAGE POWER	30	25	50	100	17
0	909	02-35 DO YOU CALCULATE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	0	0	0	0	0
0	910	02-36 DO YOU MEASURE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	10	13	0	100	0
0	911	02-37 DO YOU USE FORMULAS TO CALCULATE AVERAGE POWER OR PEAK POWER OF PULSE MODULATION TRANSMIT SYSTEMS	0	0	0	0	0
0	912	02-38 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION TRANSMITTER SCHEMATIC DIAGRAMS	30	25	50	100	17
0	913	02-39 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION RECEIVER SCHEMATIC DIAGRAMS	30	25	50	100	17
0	914	03-01 DO YOU WORK WITH ANTENNAS IN YOUR PRESENT JOB	40	38	50	100	33
0	915	03-02 DO YOU INSPECT ANTENNAS	40	38	50	100	33

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031
0 916	03-03 DO YOU CLEAN ANTENNAS	40	38	50	100	33
0 917	03-04 DO YOU PHYSICALLY ALIGN ANTENNAS	0	0	0	0	0
0 918	03-05 DO YOU ELECTRICALLY ALIGN ANTENNAS	0	0	0	0	0
0 919	03-06 DO YOU TROUBLESHOOT TO ANTENNAS	30	25	50	0	33
0 920	03-07 DO YOU TROUBLESHOOT TO ANTENNA COMPONENTS	0	0	0	0	0
0 921	03-08 DO YOU REMOVE OR INSTALL ANTENNAS	40	38	50	100	33
0 922	03-09 DO YOU REMOVE OR REPLACE COMPONENTS OF ANTENNAS	0	0	0	0	0
0 923	03-10 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF E OR ELECTRIC FIELD LINES	0	0	0	0	0
0 924	03-11 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF H OR MAGNETIC FIELD LINES	0	0	0	0	0
0 925	03-12 DO YOU DETERMINE THE DIRECTION OF THE MAGNETIC LINES IN RELATION TO THE ELECTRIC LINES OF FORCE FOR ANTENNAS	0	0	0	0	0
0 926	03-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE OF CORRECT LENGTH (HALF-WAVE) ACT AS INDUCTIVE LOADS TO THE GENERATOR	0	0	0	0	0
0 927	03-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE LONGER THAN A HALF-WAVE ACT AS INDUCTIVE LOADS TO THE GENERATOR	0	0	0	0	0
0 928	03-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE SHORTER THAN A HALF-WAVE ACT AS CAPACITIVE LOADS TO THE GENERATOR	0	0	0	0	0
0 929	03-16 DO YOU WORK WITH HERTZ ANTENNAS	0	0	0	0	0
0 930	03-17 DO YOU WORK WITH MARCONI ANTENNAS	0	0	0	0	0
0 931	03-18 DO YOU WORK WITH BROADSIDE ARRAYS	0	0	0	0	0
0 932	03-19 DO YOU WORK WITH END-FIRE ARRAYS	0	0	0	0	0
0 933	03-20 DO YOU WORK WITH CARDIOID ARRAYS	0	0	0	0	0
0 934	03-21 DO YOU WORK WITH COLLINEAR ARRAYS	0	0	0	0	0
0 935	03-22 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC INDUCTION FIELDS WHEN WORKING WITH ANTENNAS	0	0	0	0	0
0 936	03-23 DO YOU MEASURE ELECTROMAGNETIC INDUCTION FIELDS OF ANTENNAS	0	0	0	0	0
0 937	03-24 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC RADIATION FIELDS WHEN WORKING WITH ANTENNAS	0	0	0	0	0
0 938	03-25 DO YOU MEASURE ELECTROMAGNETIC RADIATION FIELDS OF ANTENNAS	0	0	0	0	0
0 939	03-26 DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA RADIATION	0	0	0	0	0
0 940	03-27 DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA INDUCTION FIELD	0	0	0	0	0
0 941	03-28 ARE ANY OF THE ANTENNAS YOU WORK ON LINEARLY POLARIZED	10	13	0	100	0
0 942	03-29 ARE ANY OF THE ANTENNAS YOU WORK ON CIRCULARLY POLARIZED	0	0	0	0	0
0 943	03-30 DO YOU MEASURE OR DETERMINE THE POLARITY OF ANTENNAS YOU WORK ON	0	0	0	0	0
0 944	03-31 DO YOU CONSTRUCT, OR MAKE THE CALCULATIONS NECESSARY TO CONSTRUCT, ANTENNAS OF CORRECT LENGTH FOR SPECIFIC WAVELENGTHS	0	0	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 024	SPC 027	SPC 028	SPC 029	SPC 031	
O 945	03-32 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS	10	13	0	100	0	
O 946	03-33 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS DIRECTORS	10	13	0	100	0	
O 947	03-34 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS REFLECTORS	10	13	0	100	0	
O 948	03-35 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN DON'T REMEMBER WHAT KIND OF ELEMENTS	20	13	50	0	17	
O 949	03-36 DO YOU WORK ON UNIDIRECTIONAL ANTENNAS	20	25	0	100	17	
O 9501	03-37 DO YOU WORK ON BIDIRECTIONAL ANTENNAS	10	13	0	100	0	
O 951	03-38 DO YOU WORK ON DON'T REMEMBER THE DIRECTIONALITY	20	13	50	0	17	
O 952	03-39 DO YOU WORK WITH ROTAR ANTENNA ARRAYS	0	0	0	0	0	
P 953	P1-01 IN YOUR PRESENT JOB DO YOU WORK WITH TRANSMISSION LINES (TRANSMISSION LINES ARE DEFINED TO INCLUDE LEADS BETWEEN RECEIVERS AND ANTENNAS, TELEPHONE LEADS, AS WELL AS HIGH VOLTAGE POWER LINES, ETC. DO NOT CONSIDER WAVEGUIDES AS TRANSMISSION LINES	10	13	0	0	17	TRANSMISSION LINES
P 954	P1-02 DO YOU REFER TO OR USE COPPER LOSS OR I2R LOSS IN TRANSMISSION LINES	0	0	0	0	0	
P 955	P1-03 DO YOU REFER TO OR USE SKIN EFFECTS OF HIGH FREQUENCY CURRENTS IN TRANSMISSION LINES	0	0	0	0	0	
P 956	P1-04 DO YOU REFER TO OR USE RADIATION LOSS IN TRANSMISSION LINES	0	0	0	0	0	
P 957	P1-05 DO YOU USE OR REFER TO DIELECTRIC LOSS IN TRANSMISSION LINES	0	0	0	0	0	
P 958	P1-06 DO YOU USE OR REFER TO LEAKAGE LOSSES IN TRANSMISSION LINES	10	13	0	0	17	
P 959	P1-07 DO YOU WORK WITH TWISTED PAIR TRANSMISSION LINES	10	13	0	0	17	
P 960	P1-08 DO YOU WORK WITH TWIN LEAD TRANSMISSION LINES	0	0	0	0	0	
P 961	P1-09 DO YOU WORK WITH OPEN TWO-WIRE TRANSMISSION LINES	0	0	0	0	0	
P 962	P1-10 DO YOU WORK WITH FLEXIBLE COAXIAL CABLE TRANSMISSION LINES	10	13	0	0	17	
P 963	P1-11 DO YOU WORK WITH RIGID COAXIAL CABLE TRANSMISSION LINES	0	0	0	0	0	
P 964	P1-12 DO YOU TROUBLESHOOT TRANSMISSION LINES	10	13	0	0	17	
P 965	P1-13 DO YOU ANALYZE VOLTAGE OR CURRENT WAVEFORMS IN TRANSMISSION LINES TO DETERMINE THE TYPE OF TERMINATION (OPEN, SHORTED, CAPACITIVE, INDUCTIVE)	10	13	0	0	17	
P 966	P1-14 DO YOU SELECT APPROPRIAT, TRANSMISSION LINES TERMINATIONS TO ACHIEVE DESIRED WAVEFORMS	10	13	0	0	17	
P 967	P1-15 DO YOU USE OR REFER TO SCHEMATIC SYMBOLS FOR LINE TERMINATIONS IN TERMS OF CIRCUIT TERMINATIONS	10	13	0	0	17	
P 968	P1-16 DO YOU MEASURE STANDING WAVE RATIOS (SR) OF TRANSMISSION LINES	0	0	0	0	0	
P 969	P1-17 DO YOU CALCULATE STANDING WAVE RATIOS (SWR) OF TRANSMISSION LINES	0	0	0	0	0	
P 970	P1-18 DO YOU PERFORM THE CALCULATIONS NECESSARY TO DETERMINE THE IMPEDANCE AND LENGTH OF QUARTER - WAVELENGTH MATCHING TRANSFORMERS TO MATCH TRANSMISSION LINES TO LOADS	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	TASK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
P 971	P1-19 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING MATCHING TRANSFORMERS	10	13	0	0	17	
P 972	P1-20 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING DELTA MATCHING	10	13	0	0	17	
P 973	P1-21 DO YOU SELECT THE TYPE OF TRANSMISSION LINE NEEDED FOR PARTICULAR JOBS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0	0	0	
P 974	P1-22 DO YOU USE OR REFER TO THE TERM CHARACTERISTIC IMPEDANCE (ZO) OF TRANSMISSION LINES	10	13	0	0	17	
P 975	P1-23 DO YOU CALCULATE THE CHARACTERISTIC IMPEDANCE (ZO) OF TRANSMISSION LINES	0	0	0	0	0	
P 976	P1-24 DO YOU USE OR REFER TO THE TERM CUTOFF FREQUENCY OF TRANSMISSION LINES	0	0	0	0	0	
P 977	P1-25 DO YOU USE OR REFER TO THE TERM VELOCITY FACTOR (K) OF TRANSMISSION LINES	0	0	0	0	0	
P 978	P1-26 DO YOU COMPUTE THE ELECTRICAL LENGTH OF TRANSMISSION LINES FOR PARTICULAR FREQUENCIES	0	0	0	0	0	
P 979	P1-27 DO YOU CONSTRUCT TRANSMISSION LINES OF PARTICULAR ELECTRICAL LENGTH FOR GIVEN FREQUENCIES	0	0	0	0	0	
P 980	P1-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT AS THE FREQUENCY INCREASES AND THE PHYSICAL LENGTH OF TRANSMISSION LINES REMAIN CONSTANT, THE ELECTRICAL LENGTH INCREASES	0	0	0	0	0	
P 981	P1-29 DO YOU WORK WITH NONRESONANT (FLAT) TRANSMISSION LINES	0	0	0	0	0	
P 982	P1-30 DO YOU WORK WITH RESONANT TRANSMISSION LINES	0	0	0	0	0	
P 983	P1-31 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING STUB MATCHING	0	0	0	0	0	
P 984	P2-01 DO YOU WORK WITH WAVEGUIDES OR CAVITY RESONATORS IN YOUR PRESENT JOB	0	0	0	0	0	
P 985	P2-02 DO YOU INSPECT WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	
P 986	P2-03 DO YOU CLEAN WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	
P 987	P2-04 DO YOU BEND WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	WAVEGUIDES AND CAVITY RESONATORS
P 988	P2-05 DO YOU TWIST WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	
P 989	P2-06 DO YOU PRESSURIZE WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	
P 990	P2-07 DO YOU PURGE WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	
P 991	P2-08 DO YOU TROUBLESHOOT WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	
P 992	P2-09 DO YOU REMOVE OR INSTALL COMPLETE WAVEGUIDES	0	0	0	0	0	
P 993	P2-10 DO YOU REMOVE OR INSTALL WAVEGUIDE SECTIONS	0	0	0	0	0	
P 994	P2-11 DO YOU REMOVE OR INSTALL DUMMY LOADS	0	0	0	0	0	
P 995	P2-12 DO YOU REMOVE OR INSTALL E BENDS	0	0	0	0	0	
P 996	P2-13 DO YOU REMOVE OR INSTALL H BENDS	0	0	0	0	0	
P 997	P2-14 DO YOU REMOVE OR INSTALL OTHER BENDS	0	0	0	0	0	
P 998	P2-15 DO YOU REMOVE OR INSTALL CHOKE JOINTS	0	0	0	0	0	
P 999	P2-16 DO YOU REMOVE OR INSTALL ROTATING JOINTS	0	0	0	0	0	
P1000	P2-17 DO YOU REMOVE OR INSTALL DIRECTIONAL COUPLERS	0	0	0	0	0	
P1001	P2-18 DO YOU REMOVE OR INSTALL BIDIRECTIONAL COUPLERS	0	0	0	0	0	
P1002	P2-19 DO YOU USE OR REFER TO "A" WALL OF WAVEGUIDES	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

BY-TSK		SPC 026	SPC 027	SPC 028	SPC 029	SPC 031
P1003	P2-20 DO YOU USE OR REFER TO "H" WALL OF WAVEGUIDES	0	0	0	0	0
P1004	P2-21 DO YOU USE OR REFER TO CUTOFF FREQUENCY OF WAVEGUIDES	0	0	0	0	0
P1005	P2-22 DO YOU USE OR REFER TO FREQUENCY-DETERMINING WALL OF WAVEGUIDES	0	0	0	0	0
P1006	P2-23 DO YOU USE OR REFER TO POWER-DETERMINING WALL OF WAVEGUIDES	0	0	0	0	0
P1007	P2-24 DO YOU USE OR REFER TO ELECTRIC FIELD BOUNDARY CONDITIONS	0	0	0	0	0
P1008	P2-25 DO YOU USE OR REFER TO MAGNETIC FIELD BOUNDARY CONDITIONS	0	0	0	0	0
P1009	P2-26 DO YOU USE OR REFER TO DUPLEXER FIELD BOUNDARY CONDITIONS	0	0	0	0	0
P1010	P2-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST WAVEGUIDES ARE MADE WITH A "B" WALL SIZE OF .7 WAVELENGTHS OF THE OPERATING FREQUENCY	0	0	0	0	0
P1011	P2-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST "A" WALLS RANGE FROM .2 TO .5 WAVELENGTHS IN SIZE, WITH .35 USED AS AN AVERAGE	0	0	0	0	0
P1012	P2-29 ARE YOU CONCERNED WITH THE MATERIAL (SUCH AS BRASS) WHICH WAVEGUIDES ARE MADE OF	0	0	0	0	0
P1013	P2-30 DO YOU COMPUTE THE LENGTH OF A WAVEGUIDE FOR SPECIFIC INSTALLATION	0	0	0	0	0
P1014	P2-31 DO YOU USE THE RIGHT HAND RULE TO DETERMINE THE DIRECTION OF PROPAGATION, DIRECTION OF "E" FIELD, OR DIRECTION OF "H" FIELD IN WAVEGUIDES	0	0	0	0	0
P1015	P2-32 DO YOU USE OR REFER TO THE TIME PHASE OF PEAK "E" OR "H" LINES IN WAVEGUIDES	0	0	0	0	0
P1016	P2-33 DO YOU MEASURE THE TIME PHASE OF "E" OR "H" LINES IN WAVEGUIDES	0	0	0	0	0
P1017	P2-34 DO YOU USE OR REFER TO THE SPACE QUADRATURE OF "E" OR "H" LINES IN WAVEGUIDES	0	0	0	0	0
P1018	P2-35 ARE HIGH POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0
P1019	P2-36 ARE LOW POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0
P1020	P2-37 ARE LOOPS USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0
P1021	P2-38 ARE APERTURES (WINDOWS OR IRISES) USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0
P1022	P2-39 ARE DON'T REMEMBER THE KIND OF ENERGY COUPLING USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0
P1023	P2-90 DO YOU DETERMINE WHERE PROBES SHOULD BE MOUNTED IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0	0	0
P1024	P2-91 DO YOU DETERMINE THE POSITIONING OF LOOPS IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
P1024	P2-42 DO YOU DETERMINE THE POSITIONING OR SIZE OF APERTURES IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0	0	0	
P1026	P2-43 ARE CHOKE JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	
P1027	P2-44 ARE ROTATING JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	
P1028	P2-45 ARE DON'T REMEMBER THE KIND OF JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	
P1029	P2-46 DO YOU TUNE CAVITY RESONATORS USING CAPACITIVE TUNING	0	0	0	0	0	
P1030	P2-47 DO YOU TUNE CAVITY RESONATORS USING INDUCTIVE TUNING	0	0	0	0	0	
P1031	P2-48 DO YOU TUNE CAVITY RESONATORS USING VOLUME TUNING	0	0	0	0	0	
P1032	P2-49 DO YOU TUNE CAVITY RESONATORS USING DON'T REMEMBER THE METHOD OF TUNING	0	0	0	0	0	
P1033	P2-50 DO YOU MEASURE THE FREQUENCY OF SIGNALS IN CAVITY RESONATORS	0	0	0	0	0	
P1034	P3-01 IN YOUR PRESENT JOB DO YOU WORK WITH KLYSTRONS, TRAVELING WAVE TUBES (TWT), PARAMETRIC AMPLIFIERS, OR MAGNETRONS	0	0	0	0	0	
P1035	P3-02 DO YOU USE OR REFER TO INTERELECTRODE CAPACITANCE	0	0	0	0	0	MICROWAVE AMPLIFIERS AND OSCILLATORS
P1036	P3-03 DO YOU USE OR REFER TO ELECTRON TRANSIT TIME	0	0	0	0	0	
P1037	P3-04 DO YOU USE OR REFER TO LEAD INDUCTANCE	0	0	0	0	0	
P1038	P3-05 DO YOU USE OR REFER TO RF LOSSES IN EXTERNAL CIRCUITRY	0	0	0	0	0	
P1039	P3-06 DO YOU USE OR REFER TO PRINCIPLE OF ELECTRON VELOCITY MODULATION	0	0	0	0	0	
P1040	P3-07 DO YOU USE OR REFER TO ELECTRON BUNCHING	0	0	0	0	0	
P1041	P3-08 DO YOU WORK WITH TWO-CAVITY KLYSTRONS	0	0	0	0	0	
P1042	P3-09 DO YOU WORK WITH THREE-CAVITY KLYSTRONS	0	0	0	0	0	
P1043	P3-10 DO YOU WORK WITH REFLEX KLYSTRONS	0	0	0	0	0	
P1044	P3-11 DO YOU WORK WITH TRAVELING-WAVE TUBES (TWT)	0	0	0	0	0	
P1045	P3-12 DO YOU WORK WITH NONDEGENERATIVE PARAMETRIC AMPLIFIERS	0	0	0	0	0	
P1046	P3-13 DO YOU WORK WITH UP-CONVERTER PARAMETRIC AMPLIFIERS	0	0	0	0	0	
P1047	P3-14 DO YOU WORK WITH MAGNETRONS	0	0	0	0	0	
P1048	P3-15 DO YOU INSPECT KLYSTRONS OR TWT	0	0	0	0	0	
P1049	P3-16 DO YOU CLEAN KLYSTRONS OR TWT	0	0	0	0	0	
P1050	P3-17 DO YOU TUNE KLYSTRONS OR TWT ELECTRICALLY	0	0	0	0	0	
P1051	P3-18 DO YOU TUNE KLYSTRONS OR TWT MECHANICALLY	0	0	0	0	0	
P1052	P3-19 DO YOU PERFORM OPERATIONAL CHECKS OF KLYSTRONS OR TWT	0	0	0	0	0	
P1053	P3-20 DO YOU TROUBLESHOOT KLYSTRONS OR TWT	0	0	0	0	0	
P1054	P3-21 DO YOU REMOVE OR REPLACE COMPLETE KLYSTRON OR TWT	0	0	0	0	0	
P1055	P3-22 DO YOU REMOVE OR REPLACE KLYSTRON OR TWT COMPONENTS	0	0	0	0	0	
P1056	P3-23 DO YOU INSPECT PARAMETRIC AMPLIFIERS	0	0	0	0	0	
P1057	P3-24 DO YOU CLEAN PARAMETRIC AMPLIFIERS	0	0	0	0	0	
P1058	P3-25 DO YOU ADJUST PARAMETRIC AMPLIFIERS	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031
P1059	P3-26 DO YOU TUNE PARAMETRIC AMPLIFIERS	0	0	0	0	0
P1060	P3-27 DO YOU PERFORM OPERATIONAL CHECKS OF PARAMETRIC AMPLIFIERS	0	0	0	0	0
P1061	P3-28 DO YOU TROUBLESHOOT PARAMETRIC AMPLIFIERS	0	0	0	0	0
P1062	P3-29 DO YOU REMOVE OR REPLACE COMPLETE PARAMETRIC AMPLIFIER	0	0	0	0	0
P1063	P3-30 DO YOU REMOVE OR REPLACE PARAMETRIC AMPLIFIER COMPONENTS	0	0	0	0	0
P1064	P3-31 DO YOU INSPECT MAGNETRONS	0	0	0	0	0
P1065	P3-32 DO YOU CLEAN MAGNETRONS	0	0	0	0	0
P1066	P3-33 DO YOU ADJUST MAGNETRONS	0	0	0	0	0
P1067	P3-34 DO YOU TUNE MAGNETRONS	0	0	0	0	0
P1068	P3-35 DO YOU PERFORM OPERATIONAL CHECKS OF MAGNETRONS	0	0	0	0	0
P1069	P3-36 DO YOU TROUBLESHOOT MAGNETRONS	0	0	0	0	0
P1070	P3-37 DO YOU REMOVE OR REPLACE COMPLETE MAGNETRON	0	0	0	0	0
P1071	P3-38 DO YOU REMOVE OR REPLACE MAGNETRON COMPONENTS	0	0	0	0	0
P1072	P3-39 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS COLLECTOR PLATES	0	0	0	0	0
P1073	P3-40 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER CAVITIES	0	0	0	0	0
P1074	P3-41 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER GRIDS	0	0	0	0	0
P1075	P3-42 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS FEEDBACK LOOPS	0	0	0	0	0
P1076	P3-43 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS DRIFT SPACES	0	0	0	0	0
P1077	P3-44 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER GRIDS	0	0	0	0	0
P1078	P3-45 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER CAVITIES	0	0	0	0	0
P1079	P3-46 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CONTROL GRIDS	0	0	0	0	0
P1080	P3-47 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATHODES	0	0	0	0	0
P1081	P3-48 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON REPELLER (REFLECTOR) PLATES	0	0	0	0	0
P1082	P3-49 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRIDS	0	0	0	0	0
P1083	P3-50 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRID CAVITY GAPS	0	0	0	0	0
P1084	P3-51 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON RESONANT CAVITIES	0	0	0	0	0
P1085	P3-52 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON MAGNETIC COUPLING LOOPS	0	0	0	0	0
P1086	P3-53 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON FILAMENTS	0	0	0	0	0
P1087	P3-54 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON CATHODES	0	0	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
P1088	P3-55 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON OUTPUT LEADS	0	0	0	0	0	
P1089	P3-56 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES FILAMENTS	0	0	0	0	0	
P1090	P3-57 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES CATHODES	0	0	0	0	0	
P1091	P3-58 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MODULATOR GRIDS	0	0	0	0	0	
P1092	P3-59 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ANODES	0	0	0	0	0	
P1093	P3-60 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES HELIXES	0	0	0	0	0	
P1094	P3-61 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES COLLECTORS	0	0	0	0	0	
P1095	P3-62 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MAGNETS	0	0	0	0	0	
P1096	P3-63 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ATTENUATORS	0	0	0	0	0	
P1097	P3-64 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE CIRCULATORS	0	0	0	0	0	
P1098	P3-65 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER SIGNAL CAVITIES	0	0	0	0	0	
P1099	P3-66 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER IDLER CAVITIES	0	0	0	0	0	
P1100	P3-67 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER VARACTOR DIODES	0	0	0	0	0	
P1101	P3-68 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE ISOLATORS	0	0	0	0	0	
P1102	P3-69 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER REVERSE-BIAS BATTERIES	0	0	0	0	0	
P1103	P3-70 DO YOU PERFORM TASKS ON ANODES	0	0	0	0	0	
P1104	P3-71 DO YOU PERFORM TASKS ON ANODE COOLING PINS	0	0	0	0	0	
P1105	P3-72 DO YOU PERFORM TASKS ON COUPLING LOOPS	0	0	0	0	0	
P1106	P3-73 DO YOU PERFORM TASKS ON HEATER LEADS	0	0	0	0	0	
P1107	P3-74 DO YOU PERFORM TASKS ON RESONANT CAVITIES	0	0	0	0	0	
P1108	P3-75 DO YOU PERFORM TASKS ON CATHODES	0	0	0	0	0	
P1109	P3-76 DO YOU PERFORM TASKS ON MAGNETS	0	0	0	0	0	
G1110	G1-01 DO YOU USE OR REFER TO STORAGE REGISTERS	20	25	0	0	33	
G1111	G1-02 DO YOU USE OR REFER TO SHIFT REGISTERS	40	38	50	0	50	
G1112	G1-03 DO YOU USE OR REFER TO LOGIC SYMBOLS OF SHIFT REGISTERS	40	38	50	0	50	
G1113	G1-04 DO YOU USE OR REFER TO LOGIC SYMBOLS OF STORAGE REGISTERS	30	25	50	0	33	REGISTERS
G1114	G1-05 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	40	38	50	0	50	
G1115	G1-06 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF REGISTERS	40	38	50	100	33	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
01116	Q1-07 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP OF A SHIFT REGISTER AFTER A SPECIFIED NUMBER OF SHIFT PULSES HAVE PASSED	30	25	50	0	33	
01117	Q2-01 DO YOU WORK WITH DIGITAL COUNTERS, REGISTERS, OR STORAGE DEVICES IN YOUR PRESENT JOB	60	50	100	100	50	
01118	Q2-02 DO YOU USE OR REFER TO DELAY LINES	40	38	50	100	33	
01119	Q2-03 DO YOU USE OR REFER TO MAGNETIC CORES	20	25	0	100	17	STORAGE DEVICES
01120	Q2-04 DO YOU USE OR REFER TO MAGNETIC DRUMS	10	13	0	100	0	
01121	Q2-05 DO YOU USE OR REFER TO MAGNETIC TAPES	60	50	100	100	50	
01122	Q2-06 DO YOU USE OR REFER TO ACCESS TIME OR SPEED OF MEMORY SYSTEMS	30	38	0	100	33	
01123	Q2-07 DO YOU USE OR REFER TO WORD CAPACITY OF MEMORY SYSTEMS	40	50	0	100	50	
01124	Q2-08 DO YOU USE OR REFER TO VOLATILITY OF MEMORY SYSTEMS	20	25	0	100	17	
01125	Q2-09 DO YOU USE OR REFER TO LOGIC SYMBOL OF DELAY LINES	30	38	0	100	33	
01126	Q3-01 IN YOUR PRESENT JOB, DO YOU WORK WITH DIGITAL-TO-ANALOG (D/A) CONVERTERS, ANALOG-TO-DIGITAL (A/D) CONVERTERS, OR BINARY-TO-DECIMAL READOUT CONVERTERS	50	38	100	100	33	
01127	Q3-02 DO YOU COMPUTE OUTPUT VOLTAGES FOR ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS FOR GIVEN INPUT VOLTAGES	20	13	50	0	17	DIGITAL TO ANALOG CONVERTERS
01128	Q3-03 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE COUNT IN ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS IS DETERMINED BY ADDING THE DENOMINATORS OF THE RESISTORS	10	13	0	0	17	
01129	Q3-04 DO YOU COMPUTE ANALOG VOLTAGES FOR GIVEN BINARY COUNTS IN ELECTRONIC DIGITAL-TO-ANALOG (D/A) CONVERTERS	20	25	0	0	33	
01130	Q3-05 DO YOU PERFORM SAMPLE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	20	25	0	100	17	
01131	Q3-06 DO YOU PERFORM HOLD FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	20	25	0	100	17	
01132	Q3-07 DO YOU PERFORM COMPARE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	20	25	0	100	17	
01133	Q3-08 DO YOU PERFORM DIGITIZE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	20	25	0	100	17	
01134	Q3-09 DO YOU PERFORM DON'T REMEMBER WHICH FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	0	0	0	0	0	
01135	Q3-10 DO YOU USE OR REFER TO SAMPLE FUNCTION OF A/D CONVERTERS	20	25	0	100	17	
01136	Q3-11 DO YOU USE OR REFER TO HOLD FUNCTION OF A/D CONVERTERS	20	25	0	100	17	
01137	Q3-12 DO YOU USE OR REFER TO COMPARE FUNCTION OF A/D CONVERTERS	20	25	0	100	17	
01138	Q3-13 DO YOU USE OR REFER TO DIGITAL FUNCTION OF A/D CONVERTERS	20	25	0	100	17	
01139	Q3-14 DO YOU PERFORM ANY TASKS ON MECHANICAL ANALOG-TO-DIGITAL (A/D) CONVERTERS	20	25	0	100	17	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
R1140	R1-01 DO YOU WORK WITH PHANTASTRON CIRCUITRY IN YOUR PRESENT JOB	0	0	0	0	0	PHANTASTRONS
R1141	R2-01 IN YOUR PRESENT JOB DO YOU WORK WITH SCHMITT TRIGGER CIRCUITS	40	38	50	0	50	
R1142	R2-02 DO YOU TRACE DATA FLOW THROUGH SCHMITT TRIGGER SCHEMATIC DIAGRAMS	40	38	50	0	50	SCHMITT TRIGGERS
R1143	R2-03 DO YOU USE OR REFER TO SCHMITT TRIGGER LOGIC SYMBOLS	40	38	50	0	50	
R1144	R3-01 IN YOUR PRESENT JOB DO YOU FABRICATE MULTICONDUCTOR CABLES	70	75	50	0	83	CABLE FABRICATION
R1145	R3-02 DO YOU FABRICATE COAXIAL CABLES	70	75	50	0	83	
S1146	S1-01 IN YOUR PRESENT JOB DO YOU PERFORM ANY TASKS ON VISUAL READOUT SYSTEMS	60	50	100	100	50	INPUT/OUTPUT DEVICES
S1147	S1-02 DO YOU PERFORM ANY TASKS ON NIXIE LIGHTS OR NIXIE LIGHT DECODER SYSTEMS	50	50	50	100	50	
S1148	S1-03 DO YOU ANALYZE NIXIE LIGHT DECODER SYSTEMS USING BOOLEAN ALGEBRA	10	13	0	0	17	
S1149	S2-01 DO YOU WORK WITH PHOTO TUBES IN YOUR PRESENT JOB	40	50	0	100	50	PHOTO SENSITIVE DEVICES
S1150	S3-01 IN YOUR PRESENT JOB DO YOU WORK WITH CHOPPER CIRCUITS	0	0	0	0	0	
S1151	S3-02 DO YOU MEASURE EXCITATION FREQUENCIES	0	0	0	0	0	
S1152	S3-03 DO YOU MEASURE VOLTAGE-CURRENT PHASE RELATIONSHIPS	0	0	0	0	0	
S1153	S3-04 DO YOU USE OR REFER TO EXCITATION FREQUENCIES	0	0	0	0	0	
S1154	S3-05 DO YOU USE OR REFER TO VOLTAGE-CURRENT PHASE RELATIONSHIPS	0	0	0	0	0	SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)
S1155	S3-06 DO YOU USE SERVOS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	0	0	0	0	0	
S1156	S3-07 DO YOU USE DETECTORS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	0	0	0	0	0	
S1157	S3-08 DO YOU USE ERROR SIGNAL DEVICES IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	0	0	0	0	0	
S1158	S3-09 DO YOU USE COMPARISON CIRCUITS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	0	0	0	0	0	
T1159	T1-01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH INFRARED SYSTEMS	10	13	0	100	0	
T1160	T1-02 DO YOU INSPECT INFRARED SYSTEMS	10	13	0	100	0	
T1161	T1-03 DO YOU CLEAN INFRARED SYSTEMS	10	13	0	100	0	
T1162	T1-04 DO YOU ADJUST OR CALIBRATE INFRARED SYSTEMS	10	13	0	100	0	INFRARED
T1163	T1-05 DO YOU OPERATE INFRARED SYSTEMS	10	13	0	100	0	
T1164	T1-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF INFRARED SYSTEMS	10	13	0	100	0	
T1165	T1-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF INFRARED SYSTEMS	10	13	0	100	0	
T1166	T1-08 DO YOU TROUBLESHOOT DOWN TO INFRARED SYSTEM COMPONENT PARTS	10	13	0	100	0	
T1167	T1-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF INFRARED SYSTEMS	10	13	0	100	0	
T1168	T1-10 DO YOU REMOVE OR REPLACE INFRARED SYSTEM COMPONENT PARTS	10	13	0	100	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
T1169	T1-11 DO YOU USE OR REFER TO FAR REGION	10	13	0	100	0	
T1170	T1-12 DO YOU USE OR REFER TO INTERMEDIATE REGION	0	0	0	0	0	
T1171	T1-13 DO YOU USE OR REFER TO NEAR REGION	0	0	0	0	0	
T1172	T1-14 DO YOU USE OR REFER TO MICRON	10	13	0	100	0	
T1173	T1-15 DO YOU USE OR REFER TO GRAY BODIES	0	0	0	0	0	
T1174	T1-16 DO YOU USE OR REFER TO BLACK BODIES	0	0	0	0	0	
T1175	T1-17 DO YOU USE OR REFER TO ABSORPTION	10	13	0	100	0	
T1176	T1-18 DO YOU USE OR REFER TO SCATTERING	0	0	0	0	0	
T1177	T1-19 DO YOU USE OR REFER TO ABSOLUTE ZERO	10	13	0	100	0	
T1178	T1-20 DO YOU PERFORM TASKS ON BLITZ	0	0	0	0	0	
T1179	T1-21 DO YOU PERFORM TASKS ON TARGET BUTTONS	0	0	0	0	0	
T1180	T1-22 DO YOU PERFORM TASKS ON ERECTOR LENSES	0	0	0	0	0	
T1181	T1-23 DO YOU PERFORM TASKS ON OCULAR LENSES	0	0	0	0	0	
T1182	T1-24 DO YOU PERFORM TASKS ON CORRECTION LENSES	0	0	0	0	0	
T1183	T1-25 DO YOU PERFORM TASKS ON FILTERS	10	13	0	100	0	
T1184	T1-26 DO YOU PERFORM TASKS ON SPHERICAL MIRRORS	0	0	0	0	0	
T1185	T1-27 DO YOU PERFORM TASKS ON PLANE MIRRORS	10	13	0	100	0	
T1186	T2-01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH LASERS	30	38	0	0	50	
T1187	T2-02 DO YOU INSPECT LASER SYSTEMS	30	38	0	0	50	
T1188	T2-03 DO YOU CLEAN LASER SYSTEMS	30	38	0	0	50	
T1189	T2-04 DO YOU OPERATE LASER SYSTEMS	30	38	0	0	50	LASERS
T1190	T2-05 DO YOU OPERATE LASER SYSTEMS	30	38	0	0	50	
T1191	T2-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF LASER SYSTEMS	30	38	0	0	50	
T1192	T2-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF LASER SYSTEMS	30	38	0	0	50	
T1193	T2-08 DO YOU TROUBLESHOOT TO COMPONENT PARTS OF LASER SYSTEMS	20	25	0	0	33	
T1194	T2-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF LASER SYSTEMS	30	38	0	0	50	
T1195	T2-10 DO YOU REMOVE OR REPLACE COMPONENT PARTS OF LASER SYSTEMS	20	25	0	0	33	
T1196	T2-11 DO YOU USE OR REFER TO ANGSTROMS (A)	10	13	0	0	17	
T1197	T2-12 DO YOU USE OR REFER TO ELECTRON ENERGY LEVELS	10	13	0	0	17	
T1198	T2-13 DO YOU USE OR REFER TO GROUND STATE	0	0	0	0	0	
T1199	T2-14 DO YOU USE OR REFER TO EXCITED STATE	0	0	0	0	0	
T1200	T2-15 DO YOU USE OR REFER TO PACKET OF RADIATION	0	0	0	0	0	
T1201	T2-16 DO YOU USE OR REFER TO PHOTONS	0	0	0	0	0	
T1202	T2-17 DO YOU USE OR REFER TO SPONTANEOUS EMISSION	0	0	0	0	0	
T1203	T2-18 DO YOU USE OR REFER TO STIMULATED EMISSION	0	0	0	0	0	
T1204	T2-19 DO YOU USE OR REFER TO COHERENCE OR INCOHERENCE	10	13	0	0	17	
T1205	T2-20 DO YOU USE OR REFER TO INVERSION LEVEL	0	0	0	0	0	
T1206	T2-21 DO YOU USE OR REFER TO MONOCHROMATIC	0	0	0	0	0	
T1207	T2-22 DO YOU WORK WITH ACTIVE MATERIALS	0	0	0	0	0	
T1208	T2-23 DO YOU WORK WITH PUMPING SOURCES	0	0	0	0	0	
T1209	T2-24 DO YOU WORK WITH FULL SILVERED (100% REFLECTIVE) MIRRORS	30	38	0	0	50	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 02A	SPC 027	SPC 028	SPC 029	SPC 031	
T1210	T2-25 DO YOU WORK WITH HALF SILVERED (92% REFLECTIVE) MIRRORS	10	13	0	0	17	
T1211	T2-26 DO YOU WORK WITH HELICAL FLASHTUBES	10	13	0	0	17	
T1212	T2-27 DO YOU WORK WITH RUBY	0	0	0	0	0	
T1213	T2-28 DO YOU WORK WITH HELIUM-NEON	30	38	0	0	50	
T1214	T2-29 DO YOU WORK WITH HELIUM-XENON	0	0	0	0	0	
T1215	T2-30 DO YOU WORK WITH XENON	0	0	0	0	0	
T1216	T2-31 DO YOU WORK WITH CESIUM-HELIUM	0	0	0	0	0	
T1217	T2-32 DO YOU WORK WITH ARGON	0	0	0	0	0	
T1218	T2-33 DO YOU WORK WITH NEODYMIUM IN GLASS	0	0	0	0	0	
T1219	T2-34 DO YOU WORK WITH GALLIUM ARSENIDE	10	13	0	0	17	
T1220	T3-01 IN YOUR PRESENT JOB DO YOU WORK WITH DISPLAY TUBES, SUCH AS DIRECT VIEW STORAGE (DVST) OR MULTIPLE MODE STORAGE TUBES (MMST)	10	13	0	0	17	
T1221	T3-02 DO YOU INSPECT DVST OR MMST	10	13	0	0	17	DISPLAY TUBES
T1222	T3-03 DO YOU CLEAN DVST OR MMST	10	13	0	0	17	
T1223	T3-04 DO YOU ADJUST OR CALIBRATE DVST OR MMST	10	13	0	0	17	
T1224	T3-05 DO YOU OPERATE SYSTEMS THAT CONTAIN DVST OR MMST	10	13	0	0	17	
T1225	T3-06 DO YOU TROUBLESHOOT DVST OR MMST CIRCUITS	10	13	0	0	17	
T1226	T3-07 DO YOU REMOVE OR REPLACE DVST OR MMST TUBES FROM MAJOR ASSEMBLIES OR UNITS	10	13	0	0	17	
T1227	T3-08 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF DVST	0	0	0	0	0	
T1228	T3-09 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF MMST	0	0	0	0	0	
T1229	T3-10 DO YOU PERFORM TASKS ON FLOOD GUNS	0	0	0	0	0	
T1230	T3-11 DO YOU PERFORM TASKS ON WRITE GUNS	0	0	0	0	0	
T1231	T3-12 DO YOU PERFORM TASKS ON ATTACK GUNS	0	0	0	0	0	
T1232	T3-13 DO YOU PERFORM TASKS ON ERASE GUNS	0	0	0	0	0	
T1233	T3-14 DO YOU PERFORM TASKS ON STORAGE GRIDS	0	0	0	0	0	
U1234	U1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY PROGRAMMING TASKS	20	25	0	100	17	
U1235	U1-02 DO YOU USE OR REFER TO DECIMAL SYSTEMS	30	38	0	0	50	
U1236	U1-03 DO YOU USE OR REFER TO PROGRAMS	30	38	0	100	33	
U1237	U1-04 DO YOU USE OR REFER TO HEXIDECIMAL SYSTEMS	30	38	0	100	33	PROGRAMMING
U1238	U1-05 DO YOU USE OR REFER TO 8-4-2-1 SYSTEMS	20	25	0	0	33	
U1239	U1-06 DO YOU USE OR REFER TO FOUR SYSTEMS	10	13	0	0	17	
U1240	U1-07 DO YOU USE OR REFER TO BINARY SYSTEMS	20	25	0	0	33	
U1241	U1-08 DO YOU USE OR REFER TO TIME-SHARING	20	25	0	100	17	
U1242	U1-09 DO YOU USE OR REFER TO DATA WORDS	20	25	0	0	33	
U1243	U1-10 DO YOU USE OR REFER TO ADDRESS WORDS	30	38	0	100	33	
U1244	U1-11 DO YOU USE OR REFER TO ADDRESS/SUBADDRESS	30	38	0	100	33	
U1245	U1-12 DO YOU USE OR REFER TO STEERING/INFORMATION	20	25	0	100	17	
U1246	U1-13 DO YOU USE OR REFER TO INFORMATION WORDS	20	25	0	0	33	
U1247	U1-14 DO YOU PERFORM TASKS ON SINGLE LEVEL PROGRAMMING	30	38	0	100	33	
U1248	U1-15 DO YOU PERFORM TASKS ON MULTI-LEVEL PROGRAMMING	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 031	
01249	01-16 DO YOU PERFORM TASKS ON INPUT DEVICES	30	38	0	100	33	
01250	01-17 DO YOU PERFORM TASKS ON STORAGE DEVICES	30	38	0	100	33	
01251	01-18 DO YOU PERFORM TASKS ON ARITHMETIC SECTIONS	0	0	0	0	0	
01252	01-19 DO YOU PERFORM TASKS ON CONTROL SECTIONS	30	38	0	100	33	
01253	01-20 DO YOU PERFORM TASKS ON OUTPUT DEVICES	30	38	0	100	33	
01254	01-21 DO YOU PERFORM TASKS ON POWER SUPPLIES	30	38	0	100	33	
01255	02-01 DO YOU USE DECIBELS TO EXPRESS AMPLIFICATION AND ATTENUATION	20	25	0	100	17	
01256	02-02 DO YOU USE LOGARITHMS TO COMPUTE OUTPUT POWER IN DECIBELS	0	0	0	0	0	DB AND POWER RATIOS
01257	02-03 DO YOU USE LOGARITHMS TO COMPUTE ATTENUATION IN DECIBELS	0	0	0	0	0	
01258	02-04 DUMMY TASK TO IDENTIFY INCUMBENTS WHO PERFORMED NO TASKS	0	0	0	0	0	

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AIRBORNE METEOROLOGICAL/ATMOSPHERIC RESEARCH EQUIPMENT REPAIRMA--ETC(U)
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SUPPLEMENTARY

INFORMATION

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Teaching Methods
Training

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This report summarizes the results of the administration of the Electronic Principles Inventory to airmen assigned as Airborne Meteorological/Atmospheric Research Equipment Repairman (AFSC 30251). The report gives a detailed listing of the technical tasks and knowledge needed to perform the jobs within the specialty or career ladder.

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This specialty has the following functions:

Installs, maintains, and repairs meteorological and atmospheric research equipment and associated data processing analog and digital computers. Performs preventive maintenance on airborne meteorological and atmospheric research equipment. Installs airborne meteorological and atmospheric research equipment. Repairs airborne meteorological and atmospheric research equipment. Supervises airborne meteorological/atmospheric research equipment repair personnel.